

August 26, 1992

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1992-93

# Brandeis University Bulletin

Graduate  
School of Arts  
and Sciences

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Libraries



Brandeis University  
National  
Women's Committee



# Brandeis University

## Application Requirements

Graduate School  
of Arts and Sciences

P.O. Box 9110  
Waltham,  
Massachusetts 02254-9110

### Instructions

All of the materials listed should be sent to the Graduate School of Arts and Sciences, Brandeis University, Waltham, Massachusetts 02254-9110.

- 1 Completed application form *in duplicate* with \$50 application fee. Please attach check or money order securely to form.
- 2 Official undergraduate and graduate transcripts *in duplicate* from the appropriate college or university registrar.
- 3 Two letters of recommendation, submitted with the provided forms *in duplicate* and sent directly from professors under whom you have studied in your area of proposed specialization. Applicants for Special Student (non-degree) status are required to submit one letter of recommendation.
- 4 Statement of purpose *in duplicate*. In essay form, state your reasons for wishing to undertake graduate work.
- 5 All applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL). The minimum acceptable score for applicants to all programs is 600. Please consult the *Graduate School Bulletin* for specifics regarding the TOEFL and international applicants.
- 6 The graduate program to which you are applying may have additional requirements. Please note that while not all applicants are required to submit results of the Graduate Record Examination (GRE), all are urged to do so. Those applicants taking the GRE are encouraged to include, in addition to the General Test, a Subject Test in a field related to the proposed area of graduate study. *See below and consult program requirements in the Graduate School Bulletin.*

### Additional requirements and deadlines 1993

Graduate Program	Deadline	Additional Requirements
Anthropology	February 15	GRE
Biochemistry	March 15	GRE, 3rd letter of recommendation
Biology	March 15	GRE, 3rd letter of recommendation
Bioorganic Chemistry	March 15	GRE, 3rd letter of recommendation
Biophysics	March 15	GRE, 3rd letter of recommendation
Chemistry	February 26	GRE
Comparative History	March 1	GRE, writing sample
Comparative History M.A.	July 30	Writing sample
Computer Science	March 1	GRE, 3rd letter of recommendation suggested
English and American Literature	February 15	GRE, writing sample
Genetic Counseling	February 15	GRE, 3rd letter of recommendation
History of American Civilization	March 1	GRE, writing sample
History of American Civilization M.A.	July 30	GRE, writing sample
International Economics and Finance	February 15	GRE or GMAT, 3rd letter of recommendation
Jewish Communal Service	March 1	GRE or MAT, writing sample
Joint Program of Literary Studies	March 1	Writing sample
Mathematics	February 15	
Music	February 15	Sample of work
Near Eastern and Judaic Studies	February 1	
Physics	March 1	GRE, GRE Subject Test
Politics	February 15	GRE, writing sample, 3rd letter of recommendation
Psychology and Cognitive Science	February 15	GRE, GRE Subject Test
Psychology M.A.	June 1	
Sociology	February 15	Writing sample
Sociology M.A.	June 1	Writing sample
Theater Arts	February 15	Sample of work

### Financial Aid

If you wish to be considered for financial assistance from Brandeis University, check the "Yes" box on your application form. You will be considered for available financial aid as listed in the *Graduate School Bulletin*. Additionally, all U.S. citizens and permanent residents must submit a GAPS FAS form.

You may obtain a GAPS FAS form from your college's Career Planning or Financial Aid office or by writing to: Graduate and Professional School Financial Aid Service, P.O. Box 23900, Oakland, CA 94623-0900.

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# Brandeis University

Application  
for Admission

Graduate School  
of Arts and Sciences

P.O. Box 9110  
Waltham,  
Massachusetts 02254-9110

## General Information

Graduate Program to which you are applying:

Session beginning September 1993

Mr./Ms./Mrs.

First name

Middle initial

Family name

Maiden name

Social Security no.

Proposed degree status ☐ M.A. ☐ M.F.A. ☐ M.S. ☐ Ph.D. ☐ Special Student status (nondegree)

Proposed registration status ☐ Full-time ☐ Part-time

Do you wish to be considered for financial assistance? ☐ Yes ☐ No

Date of birth

Marital status

Number of dependents

Country of citizenship

Permanent resident of the U.S.?

Where else have you applied?

Give the names and addresses of the professors whom you have asked to write your letters of recommendation.

## Address

Mailing address (until )

Telephone no.

Work/daytime telephone

Permanent address (if different)

Telephone no.

Work/daytime telephone

This section is optional. How would you describe yourself? Please check one option from each of the two sections below.

- 1 ☐ Female  
☐ Male

- 2 ☐ American Indian/  
Alaskan Native  
☐ Black (non-Hispanic)  
☐ Hispanic (including  
Puerto Rican)

- ☐ Anglo, Caucasian or White  
☐ Asian (including  
Indian subcontinent)  
or Pacific Islander  
☐ Other (please specify)

**Educational Record**

Colleges attended

Dates

Major field

Minor field

Degree and date

Graduate schools attended

Dates

Field of study

Degree and date

Supplementary education

Have you been awarded any honors or prizes?

Have you applied for any federal, state or national fellowships or other grants or aid? Please explain.

List your publications and any research projects with which you have been associated.

Foreign languages studied

Number of years studied

Where

Degree of proficiency

Have you taken the Graduate Record Examination and/or the Test of English as a Foreign Language? List dates.

**Extracurricular Record**

List major extracurricular activities, detailing particularly those relevant to your proposed field of study.

What types of employment have you found and when? Include summer employment.

I hereby certify that the information given above and in any attached documents is complete and accurate.

Signature of applicant

Date



# Brandeis University

Graduate School  
of Arts and Sciences

P.O. Box 9110  
Waltham,  
Massachusetts 02254-9110

## Letter of Recommendation to Supplement Application for Admission

### Applicant

Name of Applicant

Family name

First

Middle initial

Maiden name

Graduate Program

☐ I waive ☐ do not waive my right to read this letter

Signature of applicant

Date

### Recommender

Please return directly to the Graduate School at the address given above. The Graduate School will appreciate your opinion of the applicant's ability to undertake advanced studies and achieve a successful professional career. The basis for your opinion also will be appreciated. A careful discrimination between strong and weak

characteristics is in the long run more helpful than routine praise. If possible, please compare this applicant with other students who have recently attended or applied to this Graduate School. If additional space is needed, please attach a separate page.

Please rate the applicant with others you have known who are comparable in age and position.	Upper 1 to 2%	Upper 10%	Upper 25%	Upper half	Lower half	No basis for judgment
Native intellectual ability						
Breadth of general knowledge						
Oral expression						
Written expression						
Ability to work with others						
Emotional maturity						
Imagination and probable creativity						
Promise as a teacher						
Leadership potential						

Signature

Date

Name printed

Position

Address

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# Brandeis University

Application  
for Admission

Duplicate

Graduate School  
of Arts and Sciences

P.O. Box 9110  
Waltham,  
Massachusetts 02254-9110

## General Information

Graduate Program to which you are applying: \_\_\_\_\_ Session beginning September 1993

Mr./Ms./Mrs. \_\_\_\_\_

First name

Middle initial

Family name

Maiden name

Social Security no. \_\_\_\_\_

Proposed degree status ☐ M.A. ☐ M.F.A. ☐ M.S. ☐ Ph.D. ☐ Special Student status (nondegree)

Proposed registration status ☐ Full-time ☐ Part-time

Do you wish to be considered for financial assistance? ☐ Yes ☐ No

Date of birth \_\_\_\_\_

Marital status \_\_\_\_\_

Number of dependents \_\_\_\_\_

Country of citizenship \_\_\_\_\_

Permanent resident of the U.S.? \_\_\_\_\_

Where else have you applied? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Give the names and addresses of the professors whom you have asked to write your letters of recommendation.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Address

Mailing address (until \_\_\_\_\_)

Telephone no. \_\_\_\_\_

Work/daytime telephone \_\_\_\_\_

Permanent address (if different) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone no. \_\_\_\_\_

Work/daytime telephone \_\_\_\_\_

This section is optional. How would you describe yourself? Please check one option from each of the two sections below.

- 1 ☐ Female  
☐ Male

- 2 ☐ American Indian/  
Alaskan Native  
☐ Black (non-Hispanic)  
☐ Hispanic (including  
Puerto Rican)

- ☐ Anglo, Caucasian or White  
☐ Asian (including  
Indian subcontinent  
or Pacific Islander)  
☐ Other (please specify) \_\_\_\_\_

Educational Record	Colleges attended	Dates	Major field	Minor field	Degree and date
	Graduate schools attended	Dates	Field of study		Degree and date
	Supplementary education				
	Have you been awarded any honors or prizes?				
	Have you applied for any federal, state or national fellowships or other grants or aid? Please explain.				
	List your publications and any research projects with which you have been associated.				
	Foreign languages studied	Number of years studied	Where		Degree of proficiency
	Have you taken the Graduate Record Examination and/or the Test of English as a Foreign Language? List dates.				
Extracurricular Record	List major extracurricular activities, detailing particularly those relevant to your proposed field of study.				
	What types of employment have you found and when? Include summer employment.				

I hereby certify that the information given above and in any attached documents is complete and accurate.

Signature of applicant

Date



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Graduate School  
of Arts and Sciences

P.O. Box 9110  
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Massachusetts 02254-9110

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Name of Applicant

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Middle initial

Maiden name

Graduate Program

☐ I waive ☐ do not waive my right to read this letter

Signature of applicant

Date

### Recommender

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characteristics is in the long run more helpful than routine praise. If possible, please compare this applicant with other students who have recently attended or applied to this Graduate School. If additional space is needed, please attach a separate page.

Please rate the applicant with others you have known who are comparable in age and position.

Native intellectual ability

Breadth of general knowledge

Oral expression

Written expression

Ability to work with others

Emotional maturity

Imagination and probable creativity

Promise as a teacher

Leadership potential

Upper  
1 to 2%

Upper  
10%

Upper  
25%

Upper  
half

Lower  
half

No basis  
for  
judgment

Signature

Date

Name printed

Position

Address



Table of Contents

Application and Admissions Information	15 Financial Assistance
2 Academic Calendar	16 Student Services
4 Brandeis University	17 Academic Schools, Research Centers and Institutes
5 Graduate School of Arts and Sciences	19 Areas of Study and Courses
6 Admission	153 University Organization
8 International Students	155 Board of Trustees
8 Requirements for the Degree	156 Officers and Administrative Offices
10 Academic Regulations	158 Officers of Instruction
12 Discipline and Student Judicial System	167 Index
13 University Student Records Policy	169 Correspondence Directory
13 Fees and Expenses	

Section 2B of Chapter 151C of the Massachusetts General Laws provides that: "Any student [...] who is unable, because of his religious beliefs, to attend classes or to participate in any examination, study, or work requirements on a particular day shall be [so] excused..., and shall be provided with an opportunity to make up such examination, study, or work requirement which he may have missed because of such absence on any particular day; provided, however, that such makeup examination or work shall not create an unreasonable burden upon such school. No fees of any kind shall be charged ... for making available to the said student such opportunity. No adverse or prejudicial effects shall result to any student because of his availing himself of the provisions of this section."

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Brandeis University does not discriminate on the basis of race, color, age, religion, national origin, sex, sexual orientation or disability in its programs and activities. The following person has been designated to handle inquiries regarding the nondiscrimination policies: Affirmative Action Officer, Gryzmish 103, 736-3015.

Programs, requirements, fees and other information are set forth herein as they exist at the date of this publication. Brandeis University reserves the right to make changes without notice.

# Academic Calendar

## 1992-93

### Fall Term

Monday	August 31	Registration for new students.
Thursday	September 3	First day of instruction.
Monday	September 7	No University exercises, staff holiday: Labor Day.
Tuesday	September 8	Registration for returning students and course enrollment for all graduate students.
Thursday and Friday	September 17-18	Final opportunity to enroll in courses.
Monday and Tuesday	September 28-29	No University exercises: Rosh Hashanah.
Friday	October 2	Brandeis Tuesday. Tuesday class schedule in effect.
Tuesday	October 6	Brandeis Friday. Friday class schedule in effect.
Wednesday	October 7	No University exercises: Yom Kippur.
Thursday	October 8	Brandeis Monday. Monday class schedule in effect.
Friday	October 9	Brandeis Tuesday. Tuesday class schedule in effect.
Monday	October 12	No University exercises, staff holiday: Sukkot and Columbus Day.
Tuesday	October 13	Brandeis Monday. Monday class schedule in effect.
Monday	October 19	No University exercises: Shmini Atzeret.
Thursday and Friday	November 26-27	No University exercises, staff holidays: Thanksgiving.

Tuesday	December 1	Last day for February degree candidates to submit penultimate copies of dissertations to program chairs and to file Application for Degree in the Office of the University Registrar.
Monday	December 7	Last day to drop a course.
Monday	December 14	Last day of instruction.
Tuesday	December 15	Study day.
Tuesday through Wednesday	December 15-23	Examination period. Winter Recess begins after last examination.
Wednesday	December 30, 10:00 am	Fall term grades due in the Office of the University Registrar. Grades replacing incompletes from spring term 1992 due. Final day for faculty certification that February master's candidates have completed degree requirements, including language(s) and theses, and that Ph.D. candidates have defended dissertations. Final day for February degree candidates to discharge any financial indebtedness to the University.
Monday	January 11	Final day for February doctoral candidates to deposit dissertations at the Graduate School office.

# Academic Calendar 1992-93

## Spring Term

Monday	January 18	No University exercises, staff holiday: Martin Luther King Day.
Tuesday	January 19	First day of instruction.
Monday through Wednesday	January 25-27	Registration and course enrollment for graduate students.
Monday	February 1	Last opportunity to enroll in courses.
Monday	February 15	Staff holiday, classes in session: President's Day.
Monday	March 1	Last day for May degree candidates to submit penultimate copies of dissertations to program chairs and to file Application for Degree in the Office of the University Registrar.
Monday through Friday,	March 8-12	No University exercises: Midterm Recess.
Tuesday	March 30	Final day for master's candidates to complete foreign language requirement(s) for May degree.
Tuesday through Tuesday	April 6-13	No University exercises: Passover and Easter.
Friday	April 16	Final day for faculty certification that May Ph.D. candidates have defended dissertations. Final day for May degree candidates to discharge any financial indebtedness to the University.

Monday	April 19	Staff holiday, classes in session: Patriot's Day.
Tuesday	April 27	Last day to drop a course.
Tuesday	May 4	Last day of instruction.
Wednesday	May 5	Study day.
Thursday through Thursday	May 6-13	Final examination period.
Monday	May 10, 10:00 am	Final day for May doctoral degree candidates to deposit dissertations at the Graduate School office. Grades due for all degree candidates by 10:00 am. Final day for faculty certification that master's candidates theses have been accepted.
Sunday	May 23	Commencement.
Monday	May 24	Staff holiday: Memorial Day.
Tuesday	May 25, 10:00 am	All spring term grades due in the Office of the University Registrar. Grades replacing Incompletes from fall term 1992 due.

### Policy of Brandeis University pertaining to religious observances:

In constructing the academic calendar, religious holy days will not be the sole factor in determining days on which classes will be held or suspended. It is the policy of the University, however, that students be encouraged to observe their appropriate religious holy days, that instructors strive to facilitate this by allowing absence from classes for such purposes and by trying to insure that no examinations, written reports, oral reports or other mandatory class assignments are scheduled for or due on such holy days; and that instructors provide ample opportunities for such students to make up work missed on such occasions without penalty.

# Brandeis University

# Accreditation Statement

Brandeis University is recognized as one of the finest private liberal arts universities in the United States. Named for the late United States Supreme Court Justice Louis Dembitz Brandeis (1856–1941), the University was founded in 1948 under Jewish sponsorship as a nonsectarian institution offering the highest quality undergraduate and graduate education. It received accreditation within five years, the shortest possible time, and was awarded recognition by Phi Beta Kappa in 1961, only 13 years after its founding—the youngest institution to be so honored in more than 100 years.

Of the approximately 2,000 accredited colleges and universities in the nation, Brandeis is one of only 100 institutions recognized as research universities. Brandeis is a member of the Association of American Universities and is accredited by the New England Association of Schools and Colleges. Because of its research capabilities and size, Brandeis is able to combine the breadth of range of academic programs usually found at much larger universities with the intimate educational atmosphere of an undergraduate college.

For full information on the undergraduate curriculum, see the *Bulletin of the College of Arts and Sciences*.

Brandeis University is a community of scholars and students united by their commitment to the pursuit of knowledge and its transmission from generation to generation. As a research university, Brandeis is dedicated to the advancement of the humanities, arts, social, natural and physical sciences. As a liberal arts college, Brandeis affirms the importance of a broad and critical education in enriching the lives of students and preparing them for full participation in a changing society, capable of promoting their own welfare, yet remaining deeply concerned about the welfare of others.

In a world of challenging social and technological transformation, Brandeis remains a center of open inquiry and teaching, cherishing its independence from any doctrine or government. It strives to reflect the heterogeneity of the United States and of the world community whose ideas and concerns it shares. In the belief that the most important learning derives from the personal encounter and joint work of teacher and student, Brandeis encourages both undergraduates and postgraduates to participate with distinguished faculty in research, scholarship and artistic activities.

Brandeis was founded in 1948 as a nonsectarian university under the sponsorship of the American Jewish community to embody its highest ethical and cultural values and to express its gratitude to the United States through the traditional Jewish commitment to education. By being a nonsectarian university that welcomes students and teachers of every nationality, religion and political orientation, Brandeis renews the American heritage of cultural diversity, equal access to opportunity and freedom of expression.

The university that carries the name of the Justice who stood for the rights of individuals must be distinguished by academic excellence, by truth pursued wherever it may lead and by awareness of the power and responsibilities that come with knowledge.

As adopted at the meeting of the Board of Trustees, December 6, 1984.

Brandeis University is accredited by the New England Association of Schools and Colleges, Inc., a nongovernmental, nationally recognized organization whose affiliated institutions include elementary schools through collegiate institutions offering postgraduate instruction. Accreditation of an institution by the New England Association indicates that it meets or exceeds criteria for the assessment of the institutional quality periodically applied through a peer group review process. An accredited school or college is one that has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity also is addressed through accreditation.

Accreditation by the New England Association is not partial but applies to the institution as a whole. As such, it is not a guarantee of the quality of every course or program offered or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Inquiries regarding the status of an institution's accreditation by the New England Association should be directed to the Office of the Provost and Dean of the Faculty, Brandeis University, P.O. Box 9110, Waltham, MA 02254-9110. Individuals may also contact the Association: Commission on Institutions of Higher Learning, New England Association of Schools and Colleges, Inc., The Sanborn House, 15 High Street, Winchester, MA 01890, 617-729-6762.



# The Graduate School of Arts and Sciences

## History and Organization

The Graduate School of Arts and Sciences was formally established in 1953 when the University's Board of Trustees authorized graduate study in the departments of chemistry, music, psychology and Near Eastern and Judaic Studies. The general direction of the Graduate School is vested in a Graduate Council of the Faculty comprised of the President and the dean of the faculty, ex-officio; the dean of Arts and Sciences; and one representative, usually the chair, of each of the several University departments and committees offering graduate instruction. The members of the Graduate Council are appointed by the President on the recommendations of the dean of Arts and Sciences. The functions of the Graduate Council, exercised in consonance with University policy, are to determine requirements for admission; provide programs of study and examination; establish and maintain requirements for graduate degrees; make recommendations for degrees; make recommendations for new areas of graduate study; lay down such regulations as may be considered necessary or expedient for governing the Graduate School; and exercise a general supervision over its affairs. The dean of Arts and Sciences is the chair of the Graduate Council and the chief executive officer of the Graduate School.

## Objectives

The underlying ideal of the Graduate School is to assemble a community of scholars, scientists and artists, in whose company the student-scholar can pursue study and research as an apprentice. This objective is to be attained by individualizing programs of study, restricting the number of students accepted, maintaining continual contact between students and faculty and fostering the intellectual potential of each student. The graduate programs are designed to educate broadly as well as train professionally. Degrees are granted on the evidence of intellectual growth and development, rather than solely on the basis of formal course credits. Fulfillment of the minimum requirements cannot, therefore, be regarded as the sole requisite for degrees.

## Areas of Graduate Study

During the academic year 1992-93, graduate programs will be offered in the following areas:

1. Anthropology
2. Biochemistry
3. Biology
4. Bioorganic Chemistry
5. Biophysics
6. Chemistry
7. Comparative History
8. Computer Science
9. English and American Literature
10. Genetic Counseling
11. History of American Civilization
12. International Economics and Finance
13. Jewish Communal Service
14. Joint Program of Literary Studies
15. Mathematics
16. Music
17. Near Eastern and Judaic Studies
18. Physics
19. Politics
20. Psychology and Cognitive Science
21. Sociology
22. Theater Arts

## Graduate School

The Graduate School office is located in the Rabb Graduate Center. The office is open Monday through Friday from 9:00 am to 5:00 pm. All requests for information, catalogs and application forms should be addressed to the Graduate School of Arts and Sciences, Brandeis University, P.O. Box 9110, Waltham, MA 02254-9110.

## University Libraries

The Brandeis University Libraries, consisting of the Main Library, the Intercultural Library and the Gerstenzang Science Library, have combined collections of 890,000 volumes, 780,000 microforms, 320,000 U.S. documents, 7,500 serials and 63 newspapers.

The Main Library, comprised of the Bertha and Jacob Goldfarb Library, the Leonard L. Farber Library and the Rapaport Treasure Hall, houses collections supporting the humanities and the social sciences, Judaica and creative arts. In addition, the Library is a selective government document depository, emphasizing labor, health, politics and statistics. There is also a legal reference collection, providing sources on both the state and federal levels.

The Judaica department's reading room houses one of the country's most important collections of reference materials and basic texts pertaining to Judaic and Islamic studies, the ancient Near East and the modern Middle East. The book collection includes 90,000 titles in Hebrew, Arabic and Western European languages. The Libraries participate in the Research Libraries Group, which has helped to develop an online catalog of Hebrew language materials in the vernacular. Current periodical indexes relating to these disciplines are also housed in the reading room.

The Norman and Rosita Winston Creative Arts Center houses the collections and facilities in music and fine arts. There are over 15,000 musical scores emphasizing scholarly editions in medieval, Renaissance and baroque music and 16,000 discs, tapes and cassettes; the listening facility can accommodate 72 listeners. In addition, there is a 1,500-volume creative arts reference collection.

The Rapaport Treasure Hall is the home of the Special Collections department and the Vito Volterra Cultural Center. This section includes the rare books collection, the manuscript collection and some Brandeis archival material. Among the most important collections are the Spanish Civil War Collection, the Leonardo Da Vinci Collection, the Vito Volterra Collection on the History of Science and Mathematics, the McKew-Par Collection on Magellan and the Age of Discovery and the Justice Brandeis Collection.

The Gerstenzang Science Library, located within the science complex to allow convenient access by its users, contains the collections supporting the physical and natural sciences and mathematics. Containing more than 140,000 volumes and over 900 periodical subscriptions, the Library is a reference and research facility for the science complex, providing materials for advanced independent work as well as supporting instructional programs.

The Brandeis University Libraries use an integrated automated system known as LOUIS (Library Online User Information System). As an online catalog, it offers access to most of the library materials in the University Libraries through terminals located around the Library and through the campus network.

The newest unit in the Brandeis University Libraries is the Intercultural Library. Located in the new Intercultural Center in Swig, the Library houses a selective collection of books, reference works and current periodicals focusing on Asian, African and Latino cultures and their

# Admission

relationship to the American experience. The Library provides access to the online catalog of the entire Brandeis Libraries system, study space for individuals and small groups and hosts a variety of cultural programs.

Special services are available in the Libraries to assist in the research process. One of the newest services is a number of research databases on compact discs in both the Main Library and the Gerstenzang Science Library. Librarians provide computerized literature searches of databases on a cost recovery basis. Access is available through BRS, Dialog, NLM (National Library of Medicine) and CAS (Chemical Abstracts Service). Other databases are available on CD ROM for researchers to search on their own. Orientation to the Libraries and instruction in the use of the collections are available by request at the reference desks. The Interlibrary Loan Service provides books or photocopies of materials not owned by the University Libraries. Brandeis is a member of the Boston Library Consortium, comprised of 12 academic and research institutions in the Boston area. The consortium provides virtually free interlibrary loans, a union list of serials and cooperative access to collections.

As a rule, only well-qualified applicants who have completed at least the normal four-year program leading to the bachelor's degree will be considered for admission to the Graduate School. Graduates of foreign schools and others who have completed the equivalent of a bachelor's degree program may apply, describing the educational program they have completed.

## Testing

Applicants for admission to the graduate programs in anthropology, biochemistry, biology, bioorganic chemistry, biophysics, chemistry, comparative history, computer science, English, genetic counseling, history of American civilization, politics and psychology must submit results of the Graduate Record Examination (GRE). Applicants to the Lemberg Program in International Economics and Finance must submit results of either the GRE or Graduate Management Admission Test (GMAT). Applicants to the Homstein Program in Jewish Communal Service must submit the results of either the GRE or the Miller Analogies Test. All other applicants are urged to take the GRE. Consult specific programs for additional test requirements. In order for the results of the GRE to be considered, the applicant should take the examination no later than January preceding the academic year for which application is made. Information concerning the GRE is available from the Educational Testing Service, Princeton, NJ 08541-6155.

International students, regardless of field of graduate study, are required to take the Test of English as a Foreign Language (TOEFL). They are also advised to take the Test of Written English (TWE) and Test of Spoken English (TSE) unless English is their first language. Applications for admission to the test should be made to TOEFL Educational Testing Service, Princeton, NJ 08541-6155, USA. The test is administered at various established centers abroad.

## Application

Specific requirements for each graduate program are to be found under the appropriate headings in this catalog and on the information sheet with the application. Each applicant should consult these requirements before filing an application. A student may apply to only one graduate program. An applicant to the Graduate School should write to the Graduate School of Arts and Sciences, stating which program of study he or she wishes to enter. A catalog with appropriate forms will be forwarded to the applicant. The **Application for Admission** should be completed and returned in duplicate as soon as possible. Applicants requesting financial aid must file a GAPSAS form. Closing dates for receipt of applications by the graduate programs are included with application information.

Applications for admission for the spring term must be filed by December 1. Students are not usually admitted at midyear, and those who do gain admission are not normally eligible for financial aid.

All applicants must arrange to forward, in duplicate, official transcripts of all undergraduate and graduate work. In addition, they must submit two letters of recommendation, preferably from professors with whom they have studied in their proposed area of study. Applicants who have engaged in graduate study elsewhere should request at least one of the recommendations from a professor with whom they have done graduate work.

Many programs also require the submission of samples of work as well as the materials described above. Applicants should consult program requirements in a later section of this catalog for enumeration of additional materials to be submitted.

All applications must be accompanied by the application fee, payable by check or money order to Brandeis University. No application will be processed until this fee is paid. Application fee waivers will not be granted unless the applicant is from a country where foreign exchange controls prevent overseas payments, or the applicant's need for a waiver can be verified by a letter from a college financial aid officer.

## Admission Procedure

All applicants are considered on a competitive basis. The number of students admitted each year in each program is limited so that the Graduate School may operate effectively under its distinctive principles of individualized study and apprenticeship. Consequently, admission may sometimes be denied to qualified persons. Meeting the minimum standards of admission merely qualifies the applicant for a place in the group from which final selections will be made. Selections are based on the applicant's ability to do graduate work of high quality, as shown by: the distinction of his or her previous record, particularly in the proposed area of study; the letters of recommendation submitted in support of the application; and his or her presumed adaptability to the particular graduate programs offered by Brandeis University. In addition, knowledge of foreign languages, relevant practical experience in the field, samples of work, the results of the GRE and indications of character are considered.

Each application for admission with all supporting records is first examined by the appropriate program committee. The committee recommends to the dean of Arts and Sciences which applicants should be selected for admission and financial aid. The dean reviews all applications in the light of the program's recommendations and informs each applicant of the results in April.

## Acceptance

A student who has been accepted for admission to the Graduate School will be notified by a letter specifying the date by which he or she must accept the offer of admission and awards, if any. A matriculation fee of \$300 must be filed by each master's degree applicant upon notification of acceptance. This fee reserves a place in the class and is credited toward the first semester tuition bill. If the student fails to enroll or withdraws his or her application, the matriculation fee is not refunded. If a student selected for admission indicates that he or she does not intend to accept the offer or fails to reply by the date specified, the admission offer becomes void and another applicant may be accepted.

Brandeis University subscribes to the "Resolution Regarding Scholars, Fellows, Trainees and Graduate Assistants" of the Council of Graduate Schools in the United States. The resolution states:

"Acceptance of an offer of financial support (such as a graduate scholarship, fellowship, traineeship or assistantship) for the next academic year by a prospective or enrolled graduate student completes an agreement that both student and graduate school expect to honor. In that context, the conditions affecting such offers and their acceptance must be defined carefully and understood by all parties. Students are under no obligation to respond to offers of financial support prior to April 15; earlier deadlines for acceptance of such offers violate the intent of this Resolution. In those instances in which a student accepts an offer before April 15, and subsequently desires to withdraw that acceptance, the student may submit in writing a resignation of the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer. It is further agreed by the institutions and organizations subscribing to the above Resolution that a copy of this Resolution should accompany every scholarship, fellowship, traineeship, and assistantship offer."

Students who are accepted must provide the Graduate School office with an official final transcript of their undergraduate record and any graduate work in process at the time of acceptance. In addition, students who are accepted are **required to complete and return a medical questionnaire and a health insurance form**, which will be sent during the summer. Registration is conditional upon receipt by University Health Services of these required forms.

If, after having been admitted, a student cannot attend, he or she should notify the Graduate School as soon as possible. If such students wish to be admitted in a subsequent academic year, they must request reactivation of their applications at the appropriate time and bring them up to date. Admission to the Graduate School does not imply that the successful applicant has been accepted as a candidate for a graduate degree. Superior performance at Brandeis University is essential.

Applicants who have been denied admission may reapply in a later year, particularly if they have had further training that would strengthen their applications or if they can submit additional letters of recommendation.

## Readmission

Admission is valid only for one academic year. A student's record is reviewed annually and recommendations for readmission are made by the graduate programs. Students accepting readmission must submit to the Graduate School one of two financial aid forms, either the GAPSFAS or the Application for Federal Student Aid, which are provided by the Graduate School.

# International Students Requirements for the Degree

Graduates of international colleges and universities who have the equivalent of an American bachelor's degree and international students who have graduated from American universities may compete for admission and financial assistance at Brandeis, which is authorized under federal law to enroll nonimmigrant alien students.

**Entrance Examinations.** All applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL). Thorough competence in English is required for study at Brandeis. They are also advised to take the Test of Written English (TWE) and Test of Spoken English (TSE). Applicants should consult specific programs for additional test requirements. For information concerning the administration of the TOEFL, write to the Educational Testing Service, Princeton, NJ 08541-6155.

**Financial Aid.** Financial aid in the form of scholarships, fellowships, teaching assistantships and research assistantships is available to only a few of the most outstanding students. In any case, the total assistance offered usually covers only a small proportion of the student's total annual expenses. Hence students, when applying for admission, should indicate a means of financial support.

**Employment.** The regulations of the United States Immigration and Naturalization Service limit strictly the amount of paid work that a student from abroad may do. The Office of International Programs will provide further information regarding this issue.

The following general requirements apply to the awarding of graduate degrees in all areas of study. For specific program requirements students should consult the appropriate section of this catalog.

## Master of Arts and Master of Science\*

In order to qualify for a master's degree, the student must complete a minimum of one year's residency at Brandeis University, ordinarily computed as eight term courses of approved study. Some programs require a two year residency. Please consult the appropriate program for detailed information. Programs offering master's degrees may require that the candidate demonstrate a reading knowledge of at least one foreign language and pass satisfactorily a general or qualifying examination which, at the program's discretion, may be in one or more parts and may be written, oral or both. Where a thesis is required for the master's degree, two copies must be submitted to the program chair in final form.

\*Subject to approval by the Board of Trustees

The master's degree must be earned within four years from the inception of graduate study at Brandeis University.

## Master of Fine Arts

In order to qualify for the degree of Master of Fine Arts in Music, the candidate must complete a two year residency at Brandeis University, ordinarily computed as 12 term courses at the graduate level and must meet the specific requirements for the degree as set forth under Music, **Requirements for the Master of Fine Arts Degree**, in a later section of this catalog. Two copies of the thesis or composition must be submitted to the program chair in final form.

In order to qualify for the degree of Master of Fine Arts in Theater Arts, the candidate must complete a two year residency at Brandeis University and meet the specific requirements for the degree as outlined under Theater Arts, **Requirements for the Master of Fine Arts Degree**, in a later section of this catalog. Students enrolled for specialization in dramatic writing must submit two copies of a play in final form in lieu of a thesis.

The Master of Fine Arts degree must be earned within five years from the inception of graduate study at Brandeis University.

## Doctor of Philosophy

In order to qualify for the degree of Doctor of Philosophy, a student must ordinarily complete a minimum of four years of graduate study, including three full years of residence and a fourth year devoted to the preparation of a doctoral dissertation. Under certain conditions, credit for advanced standing will be granted for work taken in residence in graduate schools of other universities. Each program reserves the right to require prospective candidates for the degree to perform work in excess of its minimum standards to assure thorough mastery of the area.

Prospective candidates may be required to demonstrate proficiency in at least one foreign language. In all areas of study the student must satisfactorily pass a general or qualifying examination which, at the program's discretion, may be in one or more parts and may be written, oral or both. In addition, all prospective candidates must write a doctoral dissertation and defend it in a Final Oral Examination.

To be eligible for the Ph.D. degree, the student must have (1) completed all residence requirements, (2) passed all language and qualifying examinations and (3) write and successfully defend the doctoral dissertation.

Students entering Brandeis University with no previous graduate work must earn the doctorate within eight years from the inception of study. Students who are granted credit for a year of graduate work completed elsewhere must earn the degree within seven years from the inception of their study at Brandeis.

Students who have passed the terminal point for the degree must apply to the Graduate School for an extension no later than the final semester prior to the expiration of their time to degree.

## Language Requirements

There is no University requirement for foreign language competency at either the master's or doctoral level.

Each program determines which languages are acceptable in satisfying its foreign language requirement. Some programs may not require foreign language competency, while others may set requirements that will vary within the subfields offered by those programs. In programs where languages are required, students are expected to satisfy the requirement as soon as possible.

For specific requirements of each program, consult the program listing in this catalog.

## Application for Graduate Degrees

Candidates for graduate degrees must file with the Office of the University Registrar an application for the degree no later than December 1 for a February degree and no later than March 1 for a May degree of the academic year in which the degree is to be conferred. Upon written recommendation from a candidate's program or committee that the application be approved, the record will be reviewed by the Graduate Council, which recommends the student to the University's Board of Trustees for the awarding of the degree. In case of failure or withdrawal from candidacy in any year, the student must reapply by filing a new application in a later year.

## Dissertation and Final Oral Examination

When a student is ready to write the doctoral dissertation, a Dissertation Reading Committee of no fewer than three faculty members, at least one of whom is a tenured member of the faculty, will be appointed by the chair of the student's program. The student's principal advisor will serve as the chair of this committee. The Dissertation Reading Committee will guide the research for and preparation of the dissertation. This committee, with the approval of the Graduate School and the chair of the student's program, will appoint a Dissertation Examining Committee to preside over the student's Final Oral Examination and will notify the candidate

of the time and place of the Final Oral Examination at least three weeks prior to the scheduled date of the examination. Two copies of the dissertation, as well as an abstract of no more than 350 words, should be submitted to the Dissertation Reading Committee for approval. The style and format of the dissertation is determined by each program.

The dissertation, when approved by the readers, must then be deposited in the program office where it will be available for inspection by all interested members of the faculty for at least two weeks prior to the Final Oral Examination.

The program will publish the time and place of the candidate's Final Oral Examination and the title of the doctoral dissertation. The Final Oral Examination will be open to any member of the faculty engaged in graduate instruction and invited faculty members from other institutions.

The Dissertation Examining Committee, approved by the program chair and the Graduate School, must be comprised of a minimum of three faculty examiners, at least one of whom shall be a tenured member of the faculty and one of whom shall be from a graduate program outside the student's own, in a related area. The latter may be a faculty member from another university.

The examination may be restricted to a defense of the dissertation or may cover the whole field of the dissertation. The candidate will be notified by his or her program of responsibility for coverage prior to the examination.

A report, signed by the Dissertation Examining Committee, certifying the candidate's successful performance on the Final Oral Examination, will be submitted to the Office of the University Registrar.

If the Dissertation Examining Committee requires substantial revisions of the dissertation text, the revisions must be completed and accepted by the Committee within six months of the dissertation defense, otherwise the dissertation must be redefended.

## Deposit and Publication of Dissertation

No later than the dates specified in the current Academic Calendar for February and May degrees, the candidate must deposit in the Graduate School two copies of the finished dissertation, including the original typescript, in a state suitable for microfilm and Xerox publication. Both copies of the dissertation must have the signed approval of the dissertation supervisor and readers. One copy will be retained by the library, the other will be returned to the student, both bound. The candidate must also submit two copies of an abstract of the dissertation, not to exceed 350 words, that has been approved by the dissertation supervisor. A detailed statement of the Graduate School publication regulations is available from the Graduate School office. See also the statement in this catalog, under **Fees and Expenses**, on the Final Doctoral Fee.

# Academic Regulations

## Registration

Every resident student must register in person at the beginning of each term, whether attending regular courses of study, carrying on research or independent reading, writing a thesis or dissertation or utilizing any academic service or facility of the University. Students who have completed their residence requirements and who wish to utilize any academic service or facility of the University must also register.

Registration consists of filing a Registration Card and other duly completed required forms. Enrollment Cards may be filed at a later date but not later than the last day of registration.

## Program of Study

Before filing an Enrollment Card, the student should plan a program of study in consultation with the chair or graduate advisor of the program. All courses for which the student registers for credit must be listed on the Enrollment Card.

Audited courses must also be listed, noted as "audit," and the Enrollment Card must be signed by instructors of such courses.

Graduate students may not register for an undergraduate course (numbered below 100) for degree or residence credit unless they complete a special petition available in the Office of the University Registrar and signed by both the instructor of that course and their program chair or graduate advisor. Credit will not be given for undergraduate courses taken to make up deficiencies in the student's preparation for a program of graduate studies. Ordinarily a student may not receive credit toward completion of degree or residence requirements for courses undertaken to aid in the completion of language requirements. The completed Enrollment Card must be signed by the program chair before submission at registration. Students must reenroll in full-year courses at midyear. Students wishing to drop a full-year course at midyear must complete a special petition available in the Office of the University Registrar and signed by the instructor of the course and the chair of their program. Students may not register at midyear for a full-year course without the written approval of the instructor of the course and their program chair.

Enrollment Cards must be filed by the last day of registration (see Academic Calendar for specific date) and are considered to be final.

## Auditing Courses

The privilege of auditing courses without fee is extended to all regularly enrolled graduate students except special students. Special students may audit courses by paying for them at the same rate as those taken for credit. No courses may be audited without the permission of the instructor. Auditors may not take examinations or expect evaluation from the instructor. No credit is given for an audited course.

## Change of Program

Only under unusual circumstances are students allowed to drop courses after filing their Enrollment Cards. To do so, a Course Change Card is obtained from and returned to the Office of the University Registrar. Courses must be dropped no later than one week prior to the beginning of an examination period.

## Registration in Terms of Time

Advanced students—those who have completed three full years of residence, either by graduate work at Brandeis or receiving credit for graduate work done elsewhere—may register in terms of time, subject to the signed approval of their program chair.

Registration in terms of time is a device that helps to individualize programs of study and permits increased freedom for independent research for advanced graduate students. Registration in terms of time frees students to pursue a program of study that partially accepts or bypasses altogether the system of formal courses. Their time will be spent in such research and reading as will be most beneficial to their development as scholars.

## Absence from Examinations

Students who are absent from a midyear or final examination without an accepted excuse will receive a failing grade for that examination. No students may be excused from such examination unless for emergency or medical reasons, nor may they be excused if they were able to notify the instructor in advance and failed to do so. Cases involving absence are referred to the chair of the program who will decide whether a makeup examination shall be allowed and will notify the Office of the University Registrar of the decision. The examination must be taken within six weeks of the opening of the next term.

## Grades and Course Standards

Graduate students are expected to maintain records of distinction in all courses. Letter grades will be used in all courses in which grading is possible. In readings or research courses, if a letter grade cannot be given at the end of each term or academic year, credit ("CR") or no credit ("NC") may be used.

"NC" and any letter grade below B-minus are unsatisfactory grades in the Graduate School. A course in which the student receives an unsatisfactory grade will not be counted toward graduate credit.

At the end of each academic year the Office of the University Registrar will issue to each student a report of grades and degree requirements satisfactorily completed.

## Incompletes

A student who has not completed the research or written work for any course may receive an "EI" (incomplete) or a failing grade at the discretion of the course instructor. A student who receives an "EI" must satisfactorily complete the work of the course in which the incomplete was given in order to receive credit for the course and a letter grade. An incomplete, unless given by reason of the student's failure to attend a final examination, must be made up no later than the end of the term following the term in which it was received. When failure to take a final examination has resulted in an "EI," resolution of that "EI" to a letter grade must occur within six weeks of the beginning of the next term. If a student requires additional time to settle an incomplete grade, he/she may petition the Graduate School for an extension of time, provided the petition is signed by the instructor of the course and the program

chair: Such a petition must be filed prior to the expiration of the deadline for making up an incomplete. An "EI" that is not resolved within the stated time limits will automatically become a permanent incomplete ("XI").

## Credit for Work Done Elsewhere

Graduate-level courses taken prior to matriculation at Brandeis University may not be counted toward fulfillment of the residence requirement for the Master of Arts and Master of Science degrees, although a program may accept work taken elsewhere in partial fulfillment of specific course requirements for the degree. In that case, additional courses are designated to replace courses from which the student has been exempted.

A maximum of one term of residence credit for graduate-level courses taken prior to matriculation may be counted toward fulfillment of the residence requirements for the Master of Fine Arts degree.

Students admitted to Ph.D. programs may file an application to have graduate-level courses taken prior to matriculation counted toward fulfillment of residence requirements at this institution. A maximum of one year of residence credit may be granted.

Applicants for transfer credit will not necessarily be granted the credit requested. Each program reserves the right to require of any student work in excess of its minimum standards to assure thorough mastery of the area of study. In all cases, courses being transferred must carry a grade of "B" or better and must have been earned at an appropriately accredited institution.

After completing one term of residence at a full-time rate or the equivalent at a part-time rate, students eligible to apply for transfer credit may do so. Forms are obtained from the Office of the University Registrar and submitted to the student's program for approval. The form is then returned to the Office of the University Registrar.

Credit for work at another institution taken concurrently with studies in the Graduate School must be approved for potential transfer credit by both the student's program and the Graduate School prior to registration for such courses. Such approval is granted only in unusual circumstances. Students who formally

cross-register with Boston College, Boston University and/or Tufts University through the Consortium do not need prior approval from the Graduate School nor is it required for coursework at the Graduate Consortium for Women's Studies at Radcliffe College.

## Residence Requirements

Residence requirements for all graduate degrees are computed by determining the amount of registration for credit and the tuition charges. Part-time students pursuing part-time programs of study for credit complete their residence requirements when their fractional programs (one-quarter, one-half, three-quarters) total the amount required of a full-time student.

### Master of Arts and Master of Science\*

The minimum residence requirement for most Master's degree students is one academic year in a full-time graduate credit program at the full tuition or the equivalent thereof in part-time study. A few programs have a two year residency requirement, so consult specific programs for this information. Transfer credit may not normally be applied to residence requirements for the M.A. and M.S. degrees. \*Subject to approval by the Board of Trustees

### Master of Fine Arts

The minimum residence requirement for all students in music is four terms at a full-time rate, at the full tuition rate for each term, or the equivalent thereof in part-time study. Residence may be reduced by a maximum of one term with approved transfer credit.

The minimum residence requirement for acting and design students in theater arts is four terms at the full-time rate and two terms at the post-residence rate or the equivalent thereof in part-time study. The minimum residence for students in dramatic writing is four terms at the full tuition rate or the equivalent thereof in part-time study. Residence may be reduced by a maximum of one term with approved transfer credit.

### Doctor of Philosophy

The minimum residence requirement for all students is three academic years on a full-time graduate credit program for each year, at the full tuition rate for each year, or the equivalent thereof in part-time study. A maximum of one year's approved transfer credit may be granted toward residence for the Ph.D. degree.

## Full-Time Resident Students

A full-time student is one who devotes the entire time, during the course of the academic year, to a program of graduate work at Brandeis University.

A full-time program may include a combination of teaching and research assistance, work leading to the fulfillment of degree requirements, such as preparation for qualifying, comprehensive and final examinations, supervised reading and research and Ph.D. dissertations, as well as regular course work.

A full-time resident student may take as many courses for credit in any term as are approved by the program chair, but no student may receive credit for, or be charged for, more than a full-time program in any term. Thus the minimum residence requirement for any degree may not be satisfied by an accelerated program of study or payment of more than the full-time tuition rate in any single academic year.

Ph.D. candidates may continue as full-time students on completion of their residence requirements by registering at the post-residence fee rate.

## Part-Time Resident Students

A part-time student is one who devotes less than the entire time to a program of graduate work at Brandeis University. Students may register for a credit program of one-quarter, one-half or three-quarters time.

Students wishing to pursue part-time residence study leading to a graduate degree must explain in writing, at the time they seek admission, why full-time study is not possible. Students receiving financial aid from the University, who wish to change their status from full-time to part-time residency, must file with the Graduate School office an explanation of why full-time study is no longer possible.

## Post-Resident Students

A graduate student who has completed residence requirements and who registers in order to utilize academic services or University facilities while completing degree requirements is a post-resident student.

## Discipline and Student Judicial System

### Special Students

Properly qualified persons who wish to audit or to take courses without working for a degree will be admitted. Special students are normally not eligible for University loans, scholarships, fellowships, teaching or research assistantships. Special students who later wish to change their status to that of part-time or full-time students working for a degree must apply for admission as resident students. They must also file a special petition if they wish credit to be accepted for any courses taken at Brandeis as special students. Credit for such course work may be granted in exceptional cases.

### Leave of Absence

Students may petition for leave of absence. The petition must have the approval of both the chair of the program and the Graduate School. Leaves of absence up to one year will normally be granted to students in good academic standing who present compelling personal reasons. Time spent on authorized leaves of absence will not be counted toward the maximum time permitted to complete degree requirements.

If for any reason a student must extend a leave of absence, he or she must request such extension in writing before the leave of absence expires. Failure to do so will result in being automatically dropped from the Graduate School roster.

### Continuation

Graduate students who have completed residence requirements and are not registered during the period in which they are completing degree requirements are considered Continuation Students. A student in this category is not normally eligible for a leave of absence or deferment of student loans.

### Withdrawal

A student who wishes to withdraw from the Graduate School at any time before the end of the academic year must give immediate written notice to the program chair and to the Graduate School. Failure to comply may subject the student to dismissal, refusal of readmission, cancellation of the privilege of securing an official transcript and, in the case of a student withdrawing within 30 days of the beginning of classes, loss of eligibility for partial refund of tuition. Such a student must pay tuition for the full term. Permission to withdraw will not be granted if the student has not discharged all financial indebtedness to the University or has not made arrangements for subsequent payment to the satisfaction of the bursar's office.

### Exclusion, Dismissal or Expulsion

The University reserves the right to dismiss or exclude at any time any student whose character, conduct, academic standing or financial indebtedness it regards as undesirable. Neither the University nor any of its Trustees or officers shall be under any liability whatsoever for its disciplinary action, exclusion or dismissal.

The University also reserves the right to revoke, cancel or reduce at any time any financial or honorific award made to any graduate student, for character, conduct, academic standing or financial indebtedness regarded by the University as undesirable; neither the University nor any of its Trustees or officers shall be under any liability whatsoever for canceling, revoking or reducing any award.

### Student Judicial System

The University establishes standards of student behavior and reserves the right to suspend or permanently dismiss students whose conduct warrants such action. The University will give due notice and, if requested, a hearing before the appropriate body. The Student Judicial System is administered by the office of campus life. Standards, policies and procedures are published in *Rights and Responsibilities*, published by the Office of Student Affairs.



# Annual Notice to Students

## Brandeis University

### Records Policy

## Fees and Expenses

Annually, Brandeis University informs students of the Family Educational Rights and Privacy Act of 1974, as amended. This act, with which the institution intends to comply fully, was designed to protect the privacy of educational records, establish the right of students to inspect and review their educational records and provide guidelines for the correction of inaccurate or misleading data through informal and formal hearings.

Students also have the right to file complaints with The Family Educational Rights and Privacy Act Office (FERPA) concerning alleged failures by the institution to comply with the Act.

University policy explains in detail the procedures used by the institution for compliance with the provisions of the Act. Copies of the policy, which includes a directory of records listing all education records maintained on students by the institution, can be found in the offices of the University registrar, the dean of the college, the Graduate School and The Heller School. The policy is also on reserve in the Farber Library. Questions concerning the Family Educational Rights and Privacy Act may be referred to the Office of the University Registrar.

#### Public Notice Designating Directory Information

Brandeis University hereby designates the following categories of student information as public or "Directory Information." Such information may be disclosed by the institution for any purpose, at its discretion.

#### Category I

Name, identification number, local address and telephone number, date of birth, class (i.e., year of graduate study).

#### Category II

Dates of attendance and field of concentration at Brandeis, previous institution(s) attended and major field of study, awards and honors, degree(s) conferred and date(s) conferred.

#### Category III

Past and present participation in officially recognized sports and activities, physical factors (height, weight, etc.).

Currently enrolled students may withhold disclosure of any category of information under the Family Educational Rights and Privacy Act of 1974, as amended. To withhold disclosure, written notification must be received by the Office of the University Registrar prior to the fall term registration deadline at Brandeis University. Forms requesting the withholding of such information are available at the Office of the University Registrar.

Students who withhold disclosure of Category I information will not appear in the student directory published annually by the University. Brandeis University assumes that failure on the part of any student specifically to request the withholding of information indicates individual approval for disclosure.

Payment of tuition and other fees are due on August 1 for the fall semester and January 2 for the spring semester. A student who has not paid such fees by the day of registration will be refused the privilege of registration.

A student who defaults in the payment of indebtedness to the University shall be subject to suspension, dismissal and refusal of a transfer of credits or issuance of a transcript.

Such indebtedness includes, but is not limited to, delinquency of a borrower in repaying a loan administered by the student loan office and the inability of that office to collect such a loan because the borrower has discharged the indebtedness through bankruptcy proceedings. If the student is a degree candidate, his or her name will be stricken from the rolls.

A student who has been suspended or dismissed for nonpayment of indebtedness to the University may not be reinstated until such indebtedness is paid in full.

**Application Fee: \$50.** Payable by all applicants for admission at the time the application for admission is submitted. It is not refundable. Checks and money orders should be made payable to Brandeis University. No application for admission will be processed until this fee is paid. This fee is not required of Brandeis graduates.

**Matriculation Fee: \$300.** Payable by a Master's degree applicant upon notification of acceptance. This fee reserves a place in the class and is credited toward the first semester tuition bill. If a student fails to enroll or withdraws his or her application, the matriculation fee is not refunded.

**Tuition Fee:** The fees for tuition in the Graduate School for 1992-93 are as follows:

Full-time resident students: \$17,320 per year, or \$8,660 per term.

Special Students and part-time resident students: \$2,165 per course, per term.

In view of the constantly increasing costs of education, students may expect one or more tuition increase during their academic careers.

**Post-Residence Fee: \$1050.** Students who have completed their residence requirements and wish to continue in residence to utilize any academic service or University facility must register at the

usual tuition rates. A student who is eligible for registration on the post-residence basis may file an Enrollment Card for full-time study, in terms of courses or in terms of time or any combination thereof, provided the program chair approves of the program of study as being a full-time program and signs the Enrollment Card.

**Orientation Fee: \$25.** A one-time fee payable by students entering for the first time.

**Continuation Fee: \$150.** Payable annually by graduate students who have completed residence requirements and do not wish to use University facilities. Students in this category are preparing for the completion of degree requirements. They are normally not eligible for leaves of absence or student loan deferments.

**Master's Fee: \$75.** A candidate for the Master's degree who is subject to the Continuation Fee and earns a degree in any term following one in which he or she has not been in residence, shall pay the Master's Fee. The fee is chargeable only once.

**Final Doctoral Fee: \$325.** This fee covers all costs for the year in which the Ph.D. degree will be conferred, including the costs for the microfilm publication of the dissertation, publication of the abstract of the dissertation in *Dissertation Abstracts*, issuance of a Library of Congress number and appropriate library cards, binding two copies of the dissertation, one for use in the University Libraries and one Xerox-printed copy in book form for the author. The Final Doctoral Fee covers the rental expenses for academic robes for graduation and the cost of the diploma. Students who have paid the Continuation Fee in the final year may deduct that fee from the Final Doctoral Fee.

**NOTE:** All candidates for the Ph.D. degree must pay the \$325 Final Doctoral Fee prior to the receipt of their degrees.

**Reinstatement Fee: \$275.** Payable by a student who, after withdrawal, suspension or dismissal, has been reinstated with the consent of the dean of arts and sciences.

**Transcript Fee: \$5.** Students, former students and graduates should request official transcripts of their records from the Office of the University Registrar, Kutz Hall. The charge is \$5 for each copy issued after the first one, which is free. Requests by mail for transcripts must be accompanied by a check in the correct amount payable to Brandeis University. Transcripts will be issued only to those students whose University financial records are in order.

**Diploma Fee: \$75.** Payable by candidates for the Master's degree.

**Student Health Services Fee: \$290.** Entitles the graduate student to use of the Health Services. Continuation students are not eligible for this service.

**Student Insurance Fee: \$510.** Payment of the Insurance Fee entitles the graduate student to participate in the benefits of the Health Insurance Program. The fee is payable prior to registration and no portion is refundable. Student insurance is optional for Special Students; it is not available for continuation students.

**Student-Spouse Insurance Fee: \$935.** This fee provides 12-month coverage for student and spouse in the Health Insurance Program. The fee is payable prior to registration and no portion is refundable.

**Dependent Insurance Coverage: \$1,265.** Although the health services offered at Stoneman Infirmary are not extended to dependents of students, an optional family health insurance plan is available to married students with families. Special Students are not eligible for this plan.

**Parking Fee: \$35-\$100.** Payable annually at fall registration for privilege of parking an automobile on campus. Fee varies with assigned parking area.

## Refunds

The only fee that may be refundable, in part, is the tuition fee. No refund of the tuition fee will be made because of illness, absence or dismissal during the academic year. If a student withdraws, he or she may petition the Graduate School for a partial refund of tuition in accordance with the following:

### 1. Tuition

Withdrawal:

Before the opening day of instruction: 100% of the term's tuition.

On or before the second Friday following the opening day of instruction: 75% of the term's tuition.

On or before the fifth Friday following the opening day of instruction: 50% of the term's tuition.

After the fifth Friday following the opening day of instruction: no refund.

### 2. Scholarship

In the case of a scholarship student who withdraws, the student's account will be credited with the same proportion of the term scholarship as charged for tuition: 75% if the student leaves on or before the second Friday; 50% on or before the fifth Friday and no refund thereafter.

# Financial Assistance

To help students whose records indicate scholarly promise, the University makes available special scholarships and fellowships and a variety of awards and work opportunities. No student is eligible for federal aid without filing with the Graduate School office a standard financial aid form (GAPSFAS). All scholarships and fellowships are granted for one academic year; therefore, a registered student who holds a scholarship or fellowship must apply annually for a renewal by filing the GAPSFAS or the Application for Federal Student Aid provided by the Graduate School.

All awards are granted and accepted with the understanding that they may be revoked or reduced at any time for undesirable conduct or poor academic standing.

Ordinarily, no student may hold a fellowship, scholarship or teaching assistantship for more than two years of study for the M.A. degree, more than three years of study for the M.F.A. degree or more than five years of study for the Ph.D. degree. Ordinarily, no student may receive a scholarship, fellowship or teaching assistantship after two years of study at the post-residence fee. Priority in making awards is given to full-time students.

Students receiving financial aid from Brandeis University, whether in the form of a scholarship, fellowship or teaching/research assistantship are required to maintain a superior level of academic progress.

All students contemplating outside employment that would require a significant proportion of their time should discuss their intentions with their program advisor.

## Scholarships

A scholarship is an award on grounds of scholarly ability and financial need that will be used exclusively for remission of tuition fees. Full scholarships and partial scholarships are available. Scholarship students are liable for all but tuition charges. No services are required of students for scholarship awards.

## Fellowships

A fellowship is an academic award of honor to outstanding students to help them in furthering advanced study and research. The award may carry with it the obligation to participate in teaching and/or research duties. A fellowship recipient must pay tuition fees unless the award includes a scholarship in an amount covering tuition.

## Teaching Assistantships

Teaching assignments, when not included in a fellowship award, are given to resident students in the Graduate School who do part-time teaching as part of their training and are paid. The University has established teaching assistantships to enable distinguished graduate students to gain teaching experience while continuing their studies. Teaching assistants are eligible for other awards, including scholarships and fellowships.

Teaching assistantship appointments are made on the authority of the President of the University with the approval of the associate dean of the Graduate School who, in turn, acts on the recommendation of a student's program chair. Appointments are made for periods of one year or one term and are renewable. The University reserves the right to terminate any appointment at any time for due cause. Conduct, character or academic standing that is regarded as undesirable may constitute cause, but the University need not assign any reason for the termination of an appointment at any time. All teaching assistantship appointments are made and accepted with this understanding, and neither the University nor any of its Trustees or officers shall be under any liability whatsoever for the summary termination of a teaching assistantship.

## Research Assistantships

Research assistantships are available in several programs, especially the science areas. First-year graduate students are not normally eligible for appointment. Application should be made to the chair of the graduate program.

## Loans

**Stafford Loans** [formerly the Guaranteed Student Loan Program or GSL]. A student may be eligible for a Stafford Loan if he or she meets the following requirements: (1) is accepted for enrollment or is attending Brandeis University and is in good standing as determined by the University; (2) is carrying at least one-half the normal full-time work load; (3) is a citizen or national of the United States or is in the United States for other than a temporary purpose; (4) can demonstrate need. An eligible student may be able to borrow up to \$7,500 in any academic year at an eight percent interest rate and does not have to begin repayment usually until six months after he/she ceases to be at least a half-time student. The total amount a student may borrow under the Stafford Loan Program, including both undergraduate and graduate school loans, may not exceed \$54,750. Special Students, regardless of whether they are full- or part-time, are ineligible for Stafford Loans.

Information and applications for this program are available from banks, savings and loan associations and credit unions.

Students who plan to borrow through one of the participating sources must have on file at the Graduate School office a current Graduate and Professional Student Financial Aid Service form (GAPSFAS). Forms may be obtained at the Graduate School office or from the Financial Aid Service, P.O. Box 23900, Oakland, CA 94623-0900.

## Office of Student Employment

The Office of Student Employment assists students who need and desire part-time work. Students seeking part-time work should register with the Office of Student Employment. New students are not assigned part-time work prior to arrival on campus.

## Student Services

### Housing

Brandeis University offers a variety of housing units available for single and married graduate students. Our Charles River complex has just recently been renovated. The apartment units we offer include efficiencies, two-, three- and five-bedroom apartments. The efficiencies are designed for one or two people, while the two-, three- and five-bedroom units are designed to allow use as separate bedrooms with a shared kitchen and bath. Some of the larger units also have living rooms. All of the apartments come furnished.

Housing applications are sent to eligible graduate students by the first of May and must be returned to the Office of Campus Life by the middle of June.

In addition, the Office of Campus Life maintains a listing of available housing in the area. For additional information, please write or call: Brandeis University, Office of Campus Life, Usdan 114, P.O. Box 9110, Waltham, MA, 02254-9110. Tel: 617-736-3550. FAX: 617-736-3622.

### Dining Facilities and Services

Brandeis University Dining Services offers nonkosher and kosher dining at Sherman Dining Hall. Also located in Sherman is the Stein which offers pub-style dining in a restaurant atmosphere. In Usdan Student Center, in addition to the cafeteria, there is a recently expanded Boulevard which contains a convenience store and snackery.

Graduate students may sign meal contracts for any one of the three meal plans offered. These are: 21 meals per week, any 14 meals per week + 2000 points and any 10 meals per week. Graduate students may also purchase points. The initial purchase must be a minimum of \$50. Additional points may be purchased in increments of \$25. Purchases of \$300 and more will be discounted 5 percent at the time of purchase. These points may be used as cash in all Dining Services locations, except the Faculty Club. Points may not be used to purchase alcohol in the Stein. The advantage of points over cash is that points are discounted 5 percent at the cash register. Any student wishing to sign a meal contract and/or purchase points must bring his or her I.D. card to the Meal Contract Office in Kutz Hall.

### Health Services

Because health and medical care are an integral part of the University experience, the University Health Services provides a program of comprehensive medical and emotional care.

Students planning to matriculate in the Graduate School must submit a Health Examination Report completed by the family or personal physician prior to registration. In addition to information about previous health and details of the physical examination, state law requires that all students present evidence of immunization against tetanus, polio, measles, mumps and rubella. Since students may not register until the requirements have been satisfied, it is strongly recommended that the Health Examination Report be submitted by July 1.

**Health Care:** An optional Health Participation Fee entitles students to medical services available at the Golding Medical Outpatient Services Building and Mailman House without additional charge during the academic year. This fee does not pay for off-campus medical consultations, dental care, medications, laboratory tests, drugs, X-rays, reusable supplies or admission to the University's hospital (Stoneham Infirmary) and students are responsible for these charges.

Health Services and the use of the Stoneham Infirmary are available to students only during the period in which the University is in regular academic session. Limited day facilities are available at all other times.

**Health Insurance:** Each student is required to have personal health insurance. The student may elect to participate in the Student Health Insurance Plan offered through the University or may substitute membership in a comparable plan. Both domestic and international students must provide documentation of health insurance coverage to University Health Services at the start of each academic year. Those who do not provide this information will be automatically enrolled in the Student Health Service Insurance Plan.

The Student Health Insurance Plan offered through Brandeis is designed to defray expenses of those situations that are beyond the scope of Health Services; for example, laboratory and X-ray examinations, as well as hospitalization for illnesses or accidents of a more serious nature. The plan extends for a full calendar year commencing with the first day of the academic year.

International students are required to have full United States or Canadian health insurance for themselves, their spouses and their children regardless of a national health insurance in their home country. They may enroll in the Student Health Insurance Program or may arrange alternate insurance with a company in the United States.

Whereas situations not covered within the Health Services or by the Insurance Plan are infrequent, an awareness of these possibilities will lessen misunderstanding and disappointment. In such instances, students and their parents are responsible for expenses that are not covered by the University's health program or its associated insurance policy. Similarly, students and their parents are responsible for expenses that are not covered by alternative insurance programs substituted for the Brandeis University Student Health Insurance Plan.

A detailed brochure of the services offered by the University Health Services as well as an outline of the details of the optional health care program and the separate student health insurance plan are mailed to students annually. Students and parents are urged to read this brochure carefully and keep it for reference. This brochure includes a statement of patient rights in University Health Services.

### Psychological Counseling Center—Mailman House

The services of the Psychological Counseling Center, a part of the University Health Services, are available to students who enroll in the University Health Services plan. At the Center, a professionally trained staff provides a range of counseling and psychological services designed to enhance personal development of students and assist those who are experiencing personal or emotional problems. Individual counseling and psychotherapy are available both to undergraduate and graduate students; group therapy is also available on a limited basis. Students may make an appointment to see a counselor by calling the Counseling Center office on the second floor of Mailman House at 617-736-3730.

## Academic Schools, Research Centers and Institutes

### Office of International Programs

The staff of the Office of International Programs serves as counselors and advisors to international citizens at Brandeis, including graduate and undergraduate students and international faculty. It aids the students and faculty in fulfilling the legal procedures required by the United States Immigration and Naturalization Service, i.e., obtaining extensions of stay, special permits to work and the proper documents for leaving and reentering the country. The office coordinates the Brandeis host family program and provides assistance and referral services throughout the year.

The office also provides counseling services for Brandeis undergraduates and graduate students who seek to enrich their education through a period of study abroad. It also maintains a resource library of materials on available programs. The office provides information and assistance in obtaining international study grants available through Fulbright, Rhodes, D.A.A.D., Marshall and other scholarship and fellowship programs, including the Sachar International Scholarships for Brandeis students.

### English as a Second Language Program

International graduate students whose native language is not English may be required to take the Diagnostic English Proficiency Examinations and to have an oral interview approximately one week before the beginning of classes. Prospective teaching assistants may be asked to give an oral presentation as well. Those required to have their English proficiency evaluated are notified in June in a letter from the Graduate School.

On the basis of the examinations and the interview, a student may be required or recommended to enroll in the English as a Second Language Program. For students who will be teaching in their first year of study or expect to teach in a future year and whose English does not meet the University's minimum standard of proficiency, enrollment in the ESL Program is mandatory. For all others, this is recommended but not required.

The English as a Second Language Program provides individual and/or group tutorial instruction throughout the academic year. The aims of the program are twofold: (1) to support international graduate students in their efforts to achieve the high standards of oral and written English proficiency necessary for their success as students and (2) to support international teaching assistants in their efforts to develop the strong oral communication skills essential to their effectiveness as teachers.

No course credit toward the advanced degree is earned for these courses.

### The National Center for Complex Systems

The National Center for Complex Systems has been formed for the purpose of studying large, complex systems, with the brain and intelligence as the system of greatest interest. The Center is comprised of faculty members who specialize in artificial intelligence, cognitive science, linguistics, neurosciences, experimental psychology and artificial neural networks, among others. The Center is therefore an interdisciplinary group with the ability to perform scientific analysis of the brain from the neuronal level to the cognitive and use these analyses to facilitate development of sophisticated computational systems and modeling. The Center aims to increase knowledge within each of its individual component disciplines, as well as foster interactions among the components, giving rise to new scientific initiatives. Students interested in the study of complex systems should concentrate in one of these component disciplines: biochemistry, biology, chemistry, computer science, linguistics and cognitive science, neuroscience, physics or psychology.

### Gordon Public Policy Center

The Gordon Public Policy Center is the nation's first interdisciplinary, multiuniversity center for the study of public policy. Dedicated in 1987, the Center was founded by the James Gordon Foundation of Chicago. It is the research home of political scientists, economists, sociologists, lawyers and historians from Brandeis, MIT, Boston College, Boston University, Harvard and Wellesley College. The Center's mission is to analyze domestic public policy from the perspective of a number of academic disciplines and improve the implementations of public programs through research and evaluation, publications and direct practical service to those in government. It seeks to bridge the world of ideas and the world of action.

## Lown School of Near Eastern and Judaic Studies

The School encompasses an intensive teaching and research program in all the main areas of Judaic studies, the Ancient Near East and the Modern Middle East. In addition, the Lown School has programs that prepare students for Jewish communal service and programs of research in areas of direct concern to the American Jewish community.

The Department of Near Eastern and Judaic Studies is the primary teaching and research unit in the Lown School. In this department the University has assembled an unusual array of distinguished scholars who offer an extremely broad curriculum. A second unit in the Lown School is the Benjamin S. Homstein Program in Jewish Communal Service which provides graduate education for students interested in professional careers in Jewish communal service and Jewish education. The School also includes the Maurice and Marilyn Cohen Center for Modern Jewish Studies which is devoted to the study of contemporary American Jewish life. The Cohen Center currently engages in research and teaching in such areas as Jewish demographics, identity, the family, education and political behavior and anti-Semitism.

The Center sponsors the annual presentation of the Lewis S. Rosenstiel Award to recognize distinguished work in basic medical research.

## The Tauber Institute for the Study of European Jewry

The Tauber Institute for the Study of European Jewry seeks to study the history and culture of European Jewry in the modern period. It has a special interest in studying the causes, nature and consequences of the European Jewish catastrophe and seeks to explore them within the context of modern European diplomatic, intellectual, political and social history. The Tauber Institute for the Study of European Jewry is organized on a multidisciplinary basis with the participation of scholars in history, Judaic studies, political science, sociology, comparative literature and other disciplines. The Institute is engaged primarily in research. Its government includes a distinguished Board of Overseers, which advises the director and works closely with the University. Members of the Institute include fellows, faculty advisors, associates and graduate students.

## Rosenstiel Basic Medical Sciences Research Center

The Center is one of the nation's leading centers for research programs in the basic medical sciences embracing work in biochemistry, biology, microbiology, biophysics, immunology, protein crystallography, chemistry and physics. Staff members are jointly appointed to the Brandeis faculty basic science departments. The Center invites participation of distinguished scholars and medical scientists, offers hospitality to younger researchers at the graduate and fellowship levels and sponsors symposia and colloquia.

The Rosenstiel Basic Medical Sciences Research Center is well provided with sophisticated scientific equipment and facilities and through cooperative programming with other departments has broadened the scope of basic medical science research offerings at Brandeis. Grants from such agencies as the National Science Foundation, National Institutes of Health and American Cancer Society, among others, support research programs in the Rosenstiel Center.

# Areas of Study and Courses—1992–1993

All courses meet for three hours a week unless the course description indicates otherwise. The presence of "a" or "b" in the course number indicates a term course; "e" indicates an intensive course, two semester course credits in one semester; "d" indicates a full-year course; the use of "c" after a course number indicates that the course is given as a term course but meets throughout the year.

The University reserves the right to make any changes in the offerings without prior notice. Faculty and course listings are accurate as of June 1, 1992.

## American Civilization

See History of American Civilization

## Anthropology

### Objectives

The graduate program in anthropology, leading to the degree of Doctor of Philosophy, is designed to produce scholars who will broaden our knowledge of culture and society. Admission is limited to students whose primary interests lie within the fields of social and cultural anthropology (including linguistic anthropology) or archaeology. Some graduates of the program accept appointments at colleges and universities; a number take employment in government, private institutions or foundations. Intensive training for independent research is stressed, with particular emphasis on comparative studies and fieldwork.

### Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Students need not have an undergraduate major in anthropology or sociology-anthropology. If admitted, however, the student without previous training in anthropology may be required to take additional courses, as determined by the program, to complete his/her residence requirements. Students should have a reading knowledge of one foreign language.

### Faculty

Professor  
**Robert C. Hunt**  
Chair:  
Economic anthropology.  
Cultural ecology.  
Comparative methods.  
Irrigation.  
Mesoamerica.

Professor  
**Judith T. Irvine:**  
Ethnography of communication.  
Linguistic anthropology.  
Ethnography of speaking.  
Ethnomusicology.  
Social stratification.  
Africa.

Professor  
**David Kaplan:**  
Economic anthropology.  
Method and theory. Peasant cultures.

Associate Professor  
**David E. Jacobson:**  
Social anthropology.  
Urban social organization.  
Medical anthropology.  
Stress and support systems.  
Psychosocial transactions.  
Families and households. United States. Africa.

Associate Professor  
**Richard J. Parmentier:**  
Semiotic anthropology.  
Kinship. Historical anthropology.  
Communications and media.  
Oceania.  
Contemporary United States.

Associate Professor  
**Benson Saler:**  
Comparative religion and folk philosophies.  
Psychological anthropology.  
Mesoamerica.  
South America.  
Pastoral peoples.

Associate Professor  
**Robert N. Zeitlin:**  
Sociocultural evolution.  
Prehistoric exchange. Pre-state societies.  
Archaeological method and theory.  
Mesoamerica.

Assistant Professor  
**Sally McBrearty:**  
Paleoanthropology.  
Physical anthropology.  
Paleolithic archaeology.  
Hominid evolution. East Africa. South Asia.

Assistant Professor  
**David W. Murray:**  
Cognitive and linguistic anthropology.  
Symbolic anthropology.  
Theory and history of anthropology.  
Language and culture. North American Indians. Canada.

Adjunct Assistant Professor  
**Charles A. Ziegler:**  
Industrial and applied anthropology.  
Corporate cultures. Technology and culture.

Research Associates

**George N. Appell:**  
Social anthropology.  
Southeast Asia.

**Pedro Carrasco:**  
Mesoamerican ethnology and ethnohistory.

**Clemency Coggins:**  
Prehistoric art and archaeology of Mesoamerica, lower Central America and Peru.

**R. David Drucker:**  
Mesoamerica, especially calendrics and astronomy.

**Cornelia Ann Kammerer:**  
Kinship. Religion. Gender. Southeast Asia.

**Emily H. Moss:**  
Old World archaeology. Lithic analysis.

**Wilma Wetterstrom:**  
Archaeology. Cultural ecology. Ethnobotany and nutrition.

Degree Requirements

Master of Arts

Program of Study.

Upon admission to the master's degree program, students may qualify for the M.A. degree by meeting the following requirements: satisfactory completion of eight term courses in anthropology, including three or more core courses from among those required for the Ph.D. degree, as described below; satisfactory completion of a thesis; and, if a student's advisor deems it necessary, demonstration of a reading knowledge of one foreign language. The department will assign an advisor to each student in the master's degree program. In addition to guiding the student's selection of courses, the advisor and one other faculty appointed by the department will evaluate the student's thesis.

to cross-register for a course at any of these institutions must have prior approval of the program for the course to be counted toward degree requirements.

A temporary faculty advisor is assigned to each incoming student; by the end of the second term of study, the student is expected to recruit two members of the program to serve as his/her permanent advisory committee. The advisor, or advisory committee, is responsible, through regular meetings and informal consultation, for guiding the student's selection of suitable courses, helping to formulate a dissertation research project and supervising his/her progress through the program.

Students are evaluated at the end of the first full year of study to determine their eligibility to continue in the program. As a result of this evaluation, the department may permit the student to either complete the M.A. degree requirements, as described above, or continue course work toward the Ph.D. degree. For continuing students, the M.A. degree shall be awarded after satisfactory completion of sixteen term courses, including the required core courses, and after passing the General Examination, as described below.

Doctor of Philosophy

Program of Study.

Flexibility of curriculum allows the student to organize a program of study around his or her anthropological interests. At the same time, the program is structured so that students achieve a broad familiarity with other aspects of the discipline through seven core courses. During their three years of residence, unless exempted by virtue of previous graduate training, students must complete the following six core courses: ANTH 102a An Anthropological Introduction to Language, ANTH 115b Biocultural Adaptation, ANTH 123a Directions and Issues in Archaeology, ANTH 200a History of Anthropological Thought, ANTH 203a Contemporary Issues in Anthropological Theory and ANTH 206a Comparative Social Institutions. The seventh core course may be either ANTH 102b Social and Cultural Aspects of Linguistic Analysis or ANTH 186a Mathematics and Computers in Archaeological Data Analysis. In individual cases, the program may approve a substitute course in quantitative methods. Through course work and outside reading, students are expected to attain a high degree of scholarly competence in at least one culture area and one topical field. Brandeis University is in a consortium with Boston College, Boston University and Tufts University. Anthropology students wishing

Residence Requirement.

The minimum residence requirement is three years.

Qualifying Procedure.

During the year following completion of residence and course requirements, the student takes the general examination which tests for overall mastery of the discipline. After passing the general examination, he/she writes a Specialist Essay which should focus on theoretical and/or topical issues relevant to the proposed dissertation research. This essay must demonstrate the student's capacity for independent research of high quality. The foreign language requirement must be completed during this period. This segment of the program can be completed in one year although some students will need more time. At the completion of residence, students must submit a brief statement (300-500 words) of their tentative research plans to the graduate student advisor.



<b>Language Requirement.</b>	A reading knowledge of at least one foreign language must be demonstrated by examination and writing a research paper (such as a course paper) or dissertation in which sources in the chosen language contribute to the research.	<b>Dissertation and Defense.</b>	The department will recommend to the dean of Arts and Sciences that a Ph.D. be awarded to the candidate upon formal acceptance of a dissertation, which is successfully defended in a Final Oral Examination. Details of the regulations for certifying approval of the dissertation and for the Final Oral Examination are found in earlier pages of this catalog.
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## Courses of Instruction

<b>Anthropology 102a. An Anthropological Introduction to Language</b>	<p>A general introduction to anthropological perspectives on language. Topics include the organization of language as a communicative system, language in human evolution, linguistic approaches to cultural meaning and worldview and historical perspectives on language.</p> <p>Usually offered every year.</p> <p>Ms. Irvine</p>	<b>Anthropology 105a. Symbol, Myth and Ritual</b>	<p>Myth and ritual studied as two interlocking modes of cultural symbolism. Theoretical approaches to myth are evaluated by looking at creation and political myths. Performative, processual and spatial models of ritual analysis are evaluated by study of sacrifice and funerals.</p> <p>Usually offered in even years.</p> <p>Mr. Parmentier</p>
<b>Anthropology 102b. Social and Cultural Aspects of Linguistic Analysis</b>	<p>Advanced topics in anthropological linguistics: linguistic fieldwork and the analysis of unfamiliar languages, linguistic variation and social structure, current issues in semantics and pragmatics. Prerequisite: ANTH 102a or LING 100a.</p> <p>Usually offered in even years.</p> <p>Ms. Irvine</p>	<b>Anthropology 110a. Introduction to Human Evolution</b>	<p>An introduction to the study of the human fossil record and how and biological and geological evidence is interpreted to reconstruct the past. Evolutionary trends and relationships are explored through data analysis in the Laboratory for Social Science.</p> <p>Enrollment limited to 35 students.</p> <p>Usually offered in even years.</p> <p>Ms. McBrearty</p>
<b>Anthropology 103b. Language, Culture and Society</b>	<p>A comparative study of social and cultural aspects of language. Topics include: How do social groups differ in their use of language? How does a person's speech contribute to the impression he/she makes on other people? How is conversation organized and to what purpose?</p> <p>Usually offered every third year. Last offered Spring 1989.</p> <p>Mr. Murray</p>	<b>Anthropology 112a. Population and Poverty in the Third World</b>	<p>It is misleading to blame the poverty of the Third World nations on "overpopulation." Nevertheless, explosive population growth hinders the solution of other problems. Household decisions affecting reproduction and fertility are discussed from an anthropological perspective.</p> <p>Usually offered in even years.</p> <p>Staff</p>
<b>Anthropology 104b. Seminar: Archaeological Site Formation</b>	<p>Examines how environmental forces and human behavior combine to produce archaeological sites. Students examine, through reading and experiment, how information is abstracted from the archaeological record, and how the nature of archaeological evidence influences what aspects of the past are knowable.</p> <p>Usually offered every third year. Last offered Spring 1992.</p> <p>Ms. McBrearty</p>	<b>Anthropology 114b. Meaning in Anthropology: Interpretation and Performance</b>	<p>Explores the question of meaning as defined by the major traditions in the philosophy of language and ethnolinguistics.</p> <p>Usually offered in even years.</p> <p>Mr. Murray</p>
		<b>Anthropology 115b. Biocultural Adaptation</b>	<p>An advanced course dealing with human adaptation with particular emphasis on the interaction of biological and cultural adaptive systems' elements in human societies.</p> <p>Usually offered in odd years.</p> <p>Ms. McBrearty</p>

**Anthropology 116a.  
Human Osteology**

Human skeletal anatomy from both an evolutionary and a functional perspective. Students learn to identify and interpret the bones of the human skeleton and are introduced to specific techniques for aging, sexing and recognizing pathologies on skeletal material, among others.

Enrollment limited to 15 students.

Usually offered in even years.

Ms. McBrearty

**Anthropology 119a.  
Conquest and  
Colonialism in  
Native Latin  
America**

Traces the historical development of post-Conquest Indian society, from the policies and cultural institutions of Iberian colonialism through the complex ethnic and economic interactions of different native groups within the modern nation states.

Usually offered every third year.

Last offered Spring 1991.

Staff

**Anthropology 120b.  
Anthropology of Law**

Law is studied comparatively in relation to its social and cultural context. Western law is placed in an historical evolutionary perspective and compared with "law ways" in different nonindustrialized societies.

Usually offered every year.

Staff

**Anthropology 123a.  
Directions and  
Issues in  
Archaeology**

Examines concepts involved in the archaeological study of prehistoric societies. Selected readings are discussed as illustrations of major theoretical and methodological issues.

Usually offered in even years.

Mr. Zeitlin

**Anthropology 125b.  
Investigations in an  
Unfamiliar Language**

Using a native speaker of an unfamiliar language (such as Turkish or Amharic) as a source of data, the class investigates the structure of English and other familiar languages.

Usually offered in even years.

Ms. Irvine

**Anthropology 126b.  
Cultural Semiotics**

Provides an historical survey of the development of theories of signs and symbols. Comparison of Peircean and Saussurean foundations of modern semiotics. The structure of cultural codes and the possibility of crosscultural typologies.

Usually offered in even years.

Mr. Parmentier

**Anthropology 127a.  
Irrigation and Social  
Evolution**

Irrigation has played a very large part in the evolution and history of civilization. Examines theory concerning the role of irrigation in social change and concentrates on state formation, conquest of the frontier and economic development.

Usually offered in even years.

Mr. Hunt

**Anthropology 132a.  
Origins of African  
Cultures**

African prehistory from the earliest cultures of the Lower Pleistocene to the beginnings of historic states.

Usually offered in odd years.

Ms. McBrearty

**Anthropology 133a.  
Tradition and the  
Contemporary  
Experience in  
Sub-Saharan Africa**

Explores the variety and richness of indigenous African social and cultural forms, such as the organization of the family; indigenous political systems; rank and slavery; traditional economies; ideas about magic, witchcraft and religion and the arts.

Usually offered every third year.

Last offered Spring 1991.

Ms. Irvine

**Anthropology 134a.  
Muslim Cultures**

Provides an introduction to the anthropological study of cultures of the Middle East, with emphasis on Muslim societies.

Usually offered in even years.

Staff

**Anthropology 136b.  
Magic, Witchcraft  
and Religion**

An introduction to various attempts to characterize magic, witchcraft and religion and theorize about their roles in human life. What is usually meant by magic and why do people sometimes engage in practices that we label magical?

Usually offered every year.

Mr. Saler

**Anthropology 137a.  
Modes of Thought**

Explores worldviews among literate and nonliterate peoples with reference to the roles of social structure, language, literacy and experience in the development of ideas about reality and with regard to criteria suggested for evaluating the "rationality" of belief statements and behavior.

Usually offered in odd years.

Mr. Saler

**Anthropology 141b. North American Indians**

The native peoples of North America from the time of European contact to present day legal and political confrontations. Attention given to representative languages, economies, worldviews and religious beliefs, forms of social organization and distinctive relations to the natural world.

Usually offered every third year.

Last offered Spring 1990.

Mr. Murray

**Anthropology 143a. The Inca and Their Ancestors: Ancient Civilizations of South America**

Uses archaeological and ethnohistorical data to explore the historical development of pre-Columbian cultures of the Andes and neighboring regions of South America.

Usually offered every third year.

Last offered Fall 1990.

Staff

**Anthropology 145a. Seminar in Mesoamerican Archaeology and Ethnohistory**

The topic varies from year to year.

Usually offered every fourth year.

Last offered Spring 1989.

Mr. Zeitlin

**Anthropology 147b. The Rise of Mesoamerican Civilization**

Considers ways that environment, population growth, social structure, religion, ideology and other factors may have been related to the achievements of the Olmec, Teotihuacan, Maya, Zapotec and Aztec cultures.

Usually offered every third year.

Last offered Fall 1987.

Mr. Zeitlin

**Anthropology 148a. Rise, Function and Fall of Early Civilizations**

Regularities in the ways large-scale nonmodern societies work—and fail to work. Ethnographic and historical data and leading anthropological theories will be reviewed, as well as archaeological evidence from Mesoamerica, Mesopotamia, China, Egypt and Peru.

Usually offered every fourth year.

Last offered Fall 1988.

Staff

**Anthropology 154b. Selected Topics in Comparative Religion: Seminal Works in the Study of Religion**

Readings and discussion of works by W.R. Smith, E.B. Taylor, William James, Sigmund Freud, Emile Durkheim and Max Weber.

Usually offered in even years.

Mr. Saler

**Anthropology 155b. Psychological Anthropology**

Examines the relationship between sociocultural systems and individual psychological processes with a critical evaluation of selected theories and studies bearing on this problem.

Usually offered every fourth year.

Last offered Spring 1991.

Mr. Saler

**Anthropology 156a. Power and Violence: The Anthropology of Political Systems**

Political orders are established and maintained by varying combinations of overt violence and the more subtle workings of ideas. Examines the relationship of coercion and consensus and forms of resistance, in both historical and contemporary settings.

Usually offered in odd years.

Staff

**Anthropology 157a. Families and Households**

Describes and analyzes several family types and households in contemporary American life, interpreting them in their cultural contexts and comparing them with similar arrangements in other cultures.

Usually offered in every year.

Mr. Jacobson

**Anthropology 158a. Urban Anthropology**

Comparative study of strategies used in coping with the complexity of urban life. Attention is given to analyzing and evaluating the theories, methods and data anthropologists and others use in their studies of urban social organization.

Usually offered in every year.

Mr. Jacobson

**Anthropology 160b. Mind, Self and Emotion in Culture**

Examines the self and its emotional states and explores crosscultural answers to questions such as: To what extent are emotions mental experiences, capable of being learned or affected by culture? Is emotional experience controllable and deployable to advantage in strategies of interaction?

Usually offered in odd years.

Mr. Murray

**Anthropology 161b. Culture and Cognition**

Explores the relationship between cognitive processes and cultural systems, cultural differences involving people's perception, classification processes, memory or modes of problem solving and their effect on the course of cognitive development.

Usually offered every year.

Mr. Murray

<b>Anthropology 163b. Economic Anthropology: Production and Distribution</b>	All humans must equip and organize themselves to produce and distribute the necessities and luxuries of life. Samples different ways of producing and distributing food, tools, crafts and services. Most attention is paid to "primitive" economies.	<b>Anthropology 175a. Reading Ethnography</b>	An analysis of representative classics and contemporary works in the ethnographic literature. Helps students better understand the ethnographic accounts upon which much of social and cultural anthropology is based.
	Usually offered in odd years.		Usually offered in every year.
	Mr. Hunt		Mr. Jacobson
<b>Anthropology 164b. Corporate Cultures</b>	Examines the structure and internal dynamics of the modern corporation, with special emphasis on corporate culture, i.e., the system of company-specific beliefs, values and norms that underlie work-related behavior of members.	<b>Anthropology 181b. Problems of Ancient Statecraft</b>	An advanced seminar on characteristic problems in the creation and maintenance of ancient states and empires, and the means by which these problems were dealt with.
	Usually offered in even years.		Usually offered in odd years.
	Mr. Ziegler		Staff
<b>Anthropology 165b. Evolution of Political Economy</b>	Examines the structural features of political economy in a developmental framework, beginning with hunting and gathering societies through horticultural societies to chiefdoms to agrarian states to industrial states. Focuses on a comparative analysis of preindustrial states and factors that historically have prompted or hindered their transition to industrialism.	<b>Anthropology 186a. Mathematics and Computers in Archaeological Data Analysis</b>	Topics include basic descriptive statistics, logic of statistical reasoning, research design and sampling, use of statistical packages, an introduction to multivariate methods and uses of these approaches for archaeological interpretation and theory building.
	Usually offered every year.		Usually offered every third year.
	Mr. Kaplan		Last offered Fall 1989.
<b>Anthropology 166a. The Nature of Human Nature</b>	Deals with various theories of human nature and the evidence for such theories. Explores the way in which theories of the nature of man have figured in interpretations of culture.	<b>Anthropology 188a. Materials in Ancient Societies: Osteoarchaeology I</b>	An introduction to the study of bones including their structure, identification and chemical characterization. Focuses on the osteological analysis of zooarchaeological remains and on bone histology. Identification of skeletal elements of common species using comparative material and their investigation by means of visual, metric and microscopic methods are stressed as a means for ascertaining aspects of paleoeconomies.
	Usually offered every year.		Usually offered every year.
	Mr. Saler		Signature of Brandeis coordinator, Mr. Zeitlin, required.
<b>Anthropology 171a. Cross-Cultural Inquiry in Social Science</b>	Relativism is the fundamental problem of social science and all cross-system investigation must confront it. Insider-outsider, emic/etic, equivalence and other forms are considered. The major solutions to the problem are evaluated.	<b>Anthropology 188b. Materials in Ancient Societies: Osteoarchaeology II</b>	A continuation of 188a, but with the emphasis on human osteology and bone chemistry. Reconstruction of natural and cultural environments and human behavior (including diet) by means of statistical, chemical and osteological techniques are stressed. Both 188a and b involve lectures, seminars and lab instruction, and involve students in individual projects.
	Usually offered in even years.		Usually offered every year.
	Mr. Hunt		Signature of Brandeis coordinator, Mr. Zeitlin, required.
			Staff (at MIT)

Primarily for graduate students

**Anthropology 200a. History of Anthropological Thought**  
An historical examination of major ideas and perennial problems in social thought that have led to the development of modern theory and method in anthropology. The principal schools of thought and significant figures associated with them in American, British and Continental traditions.  
  
Usually offered every year.  
  
Mr. Murray

**Anthropology 203a. Contemporary Issues in Anthropological Theory**  
An intensive examination of the major paradigms of contemporary anthropological theory. Concentration on recent debates about fundamental distinctions such as explanation/understanding, comparison/particularism and material/symbolic analysis.  
  
Usually offered in odd years.  
  
Mr. Kaplan

**Anthropology 206a. Comparative Social Institutions**  
Introduces students to key anthropological conceptions of social institutions and their role in cross-cultural comparison. Included are examples such as status and role, household and family, lineage and descent group, network and alliance and class and stratification.  
  
Usually offered in even years.  
  
Mr. Hunt

**Anthropology 222-284. Readings and Research Courses**

**222a and b. Readings and Research on the World Before Civilization**  
  
Mr. Zeitlin

**224a. Readings and Research in Gender**  
  
Mr. Parmentier

**225a and b. Readings and Research in Cultural Analysis**  
  
Mr. Parmentier

**226a and b. Readings and Research in Archaeology**  
  
Mr. Zeitlin

**227a and b. Readings and Research in Linguistic Anthropology**  
  
Ms. Irvine

**228a. Advanced Readings in Method and Theory**  
  
Mr. Kaplan

**228b. Advanced Readings in Method and Theory**  
  
Messrs. Kaplan and Zeitlin

**229a and b. Guided Comparative and Historical Research**  
  
Mr. Hunt

**231a and b. Readings in Cognitive Culture**  
  
Mr. Saler

**232a. Readings in Development**  
  
Mr. Hunt

**234b. Readings and Research in Anthropology of Law**  
  
Staff

**235a and b. Readings and Research in Latin American Cultures**  
  
Mr. Hunt

**237a and b. Readings and Research in African Cultures**  
  
Ms. Irvine

**238a and b. Readings and Research in Urban Anthropology**  
  
Mr. Jacobson

**239a and b. Readings and Research in North American Indians**  
  
Mr. Murray

**241a and b. Readings and Research in New World Ethnohistory**  
  
Staff

**252a and b. Readings and Research in Anthropology of Art**  
  
Ms. Irvine

**253a and b. Readings and Research in Economic Anthropology**  
  
Messrs. Kaplan and Hunt

**254a and b. Readings and Research in Southeast Asian Ethnography**  
  
Mr. Appell

**256a and b. Readings and Research in Religion**  
  
Mr. Saler

257a and b. Readings and Research in Families and Households	Mr. Jacobson	Anthropology 302d. Summer Research Training	Fieldwork for three months during the summer under the supervision of a member of the staff.  Staff
258a. Readings and Research in Cross Cultural Poetics	Mr. Murray	Anthropology 304a and b. Readings and Research in Anthropological Field Methods	Staff
259b. Readings and Research in Conceptions of Personhood	Mr. Murray	Anthropology 305d. Anthropology Colloquium	Staff
260a. Readings and Research in Cognition and Education	Mr. Murray	Anthropology 402d. Dissertation Research	Independent research for the Ph.D. degree  Specific sections for individual faculty members as requested.  Staff
261b. Readings and Research in the Symbolic Anthropology of Japan	Mr. Murray		
262a and b. Readings and Research in the Social Study of Science	Mr. Murray		
263a. Problems in Ethnicity and Identity	Mr. Murray		
283a and b. Readings and Research in Fieldwork	Mr. Jacobson		
284a and b. Readings and Research in Archaeological Methods	Mr. Zeitlin		

# Biochemistry

## Objectives

The graduate program in biochemistry leading to the degree of Doctor of Philosophy is designed to equip students with a broad understanding of the chemical and molecular events involved in biological processes and to train them to carry out independent original research. Major emphasis in this program is placed upon experimental research work. However, students are required to complete formal course work in advanced biochemistry, molecular biology and physical biochemistry. Additional courses and seminars are available in a wide range of subjects including neurobiology, immunology, structural biochemistry, membrane biology and genetics. Students are encouraged to choose advanced courses and seminars according to their particular interests. Doctoral research topics are chosen in areas under investigation by the faculty; these include problems in macromolecular structure and function, enzyme function and regulation, gene regulation, membrane transport and receptor function, molecular pharmacology, mechanisms of cell motility, microbial metabolism and the biochemistry of cellular

electrical excitability. A theme running through most of this research is the relationship of biochemical functions to underlying molecular structures and mechanisms.

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of the catalog, apply here. Applicants for admission to the biochemistry program are also required to take the Graduate Record Examination. It is strongly suggested that the applicant take one of the advanced sections (preferably chemistry or biology) of this examination. The student's undergraduate curriculum should include some fundamental courses in biology and chemistry.

## Faculty

**Professor Pieter Wensink**  
Chair  
(Rosenstiel Center):  
Molecular biology.  
Regulation of gene  
expression during  
the development of  
higher organisms.  
Protein-nucleic  
acid interactions.

**Professor Robert H. Abeles:**  
Mechanism of  
enzyme action.  
Design of highly  
specific enzyme  
inactivators.  
Design of  
inhibitors with  
potential  
pharmacological  
significance.  
Mechanism of drug  
action.

**Professor Gerald D. Fasman:**  
Conformation of  
biological  
macromolecules.  
Protein models,  
synthesis and  
conformational  
studies.  
Glycoprotein  
models.  
Conformation of  
membrane proteins  
and receptors.

**Professor Thomas C. Hollocher, Jr.:**  
Role and  
mechanism of  
action of  
oxidation-reduction  
enzymes.  
Mechanism,  
enzymology and  
pathway of  
nitrogen in  
denitrification and  
nitrification.

**Professor William P. Jencks:**  
Mechanisms of  
reactions catalyzed  
by enzymes,  
coenzymes and  
chemical catalysts.  
Mechanisms,  
catalysis and  
equilibria of  
reactions of  
"energy-rich"  
compounds of  
importance in  
biochemistry and  
chemistry.  
Mechanisms of  
conversion of  
chemical energy  
into osmotic and  
mechanical work.

**Professor Lawrence Levine:**  
Immunochemistry.  
Antibodies as  
analytical reagents  
for measuring  
pharmacologically  
important  
molecules.  
Mechanisms of  
arachidonic acid  
metabolism by  
cells in culture.

**Professor Irwin B. Levitan**  
(Director, National  
Center for  
Complex Systems):  
Neurobiology.  
Regulation of  
neuronal  
membrane  
properties.

**Professor John M. Lowenstein:**  
Role of  
phospholipids in  
hormone action.  
Regulation of  
metabolic  
pathways.  
Regulation and  
function of the  
purine nucleotide  
cycle; regulation of  
adenosine  
production in heart.

**Professor Susan Lowey**  
(Rosenstiel Center):  
Structure and  
function of  
myofibrillar  
proteins and their  
relation to the  
muscle cell.  
Techniques  
include physical  
chemistry, protein  
chemistry,  
molecular  
biological  
techniques,  
fluorescence and  
electron  
microscopy.

**Professor Christopher Miller:**  
Structure and  
function of ion  
channel proteins.  
Membrane  
transport and  
mechanisms of  
electrical  
excitation.

**Professor Gregory Petsko**  
(Rosenstiel Center  
and Chemistry):  
X-ray  
crystallographic  
analysis of protein  
structure and  
enzyme  
mechanisms.

**Professor Alfred G. Redfield**  
(Rosenstiel Center  
and Physics):  
Magnetic  
resonance in  
biopolymers.  
Physical  
biochemistry.  
Macromolecular  
structure.

Professor <b>Serge N. Timasheff:</b> Physical chemistry of proteins. Stabilization of structure in solution. Self-assembling systems. Ligand-mediated interactions. Macromolecular properties of biological polymers.	Professor <b>Helen Van Vunakis:</b> Interaction of biologically active compounds with specific antibodies and natural receptors. Nicotine metabolism and physiological effects.	Associate Professor <b>William T. Murakami:</b> Biochemistry of virus infection. Metabolism of virus-infected cells. Purification and characterization of polyoma virus.  Associate Professor <b>Dagmar Ringe</b> (Rosenstiel Center and Chemistry): Structures of enzymes and enzyme-substrate complexes. X-ray crystallography.	Assistant Professor <b>T. Christian Boles:</b> Structure of supercoiled DNA. Mechanisms of DNA recombination. Regulation and functions of DNA supercoiling in vivo.	Assistant Professor <b>Jeff Gelles:</b> Mechanisms of mechanoenzymes. Stochastic processes in single enzyme molecules. Light microscopy as a tool to study enzyme mechanisms.  Assistant Professor <b>Lizbeth Hedstrom:</b> Structure-function relationships of enzyme catalysis.	Assistant Professor <b>Daniel D. Oprian:</b> Structure-function studies of visual pigments and other cell surface receptors.
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## Degree Requirements

### Master of Arts

Program of Study.	The graduate program in biochemistry does not normally admit students to pursue the M.A. degree. In special cases, however, the M.A. degree may be awarded upon successful completion of at least one year of study, including Biochemistry 101a, 101b, 103 and 104.
Residence Requirement.	The minimum residence requirement is one year.
Language Requirement.	There is no language requirement.
Thesis.	M.A. thesis describing original research carried out in the laboratory of the research advisor.

### Doctor of Philosophy

Program of Study.	Each doctoral candidate must satisfactorily complete the following fundamental courses: advanced biochemistry, advanced molecular biology, physical biochemistry and biochemical research problems, four biochemistry seminars and one advanced course from outside the program.  After the required courses are completed, the faculty will evaluate each student's performance to decide whether the student should continue working towards the Ph.D. degree or the Master of Arts degree.
Residence Requirement.	The minimum residence requirement is three years.
Language Requirements.	There is no foreign language requirement for the Ph.D. degree.
Financial Support.	Graduate students receive financial support (tuition and stipend) throughout their participation in the graduate program. This support is provided by a combination of University funds, training grants and individual research grants.
Teaching.	As a part of the graduate training program, students are required to participate as teaching assistants for two terms. No laboratory teaching is required.
Qualifying Examinations.	An oral qualifying examination must be taken generally at the beginning of the second year. In this examination, the student will be asked to defend or refute two propositions. One proposition will be assigned in an area of research outside the student's immediate area of specialization, and one will be an original proposition put forth by the student for a research problem in his or her area of interest (this is not necessarily a problem upon which he or she will carry out research).

In addition, the student must demonstrate general knowledge of biochemistry in a series of three area examinations: physical biochemistry and macromolecules,



metabolism and enzymology and molecular biology. Students are expected to have taken three examinations by the end of the third year; two of these must be taken by the end of the second year. This general knowledge outside the student's own field of specialization must be demonstrated to the satisfaction of an advisory committee of four program faculty members.

Dissertation and Defense.

A dissertation will be required that summarizes the results of an original investigation of an approved subject and demonstrates the competence of the candidate in independent research. This dissertation will be defended in a Final Oral Examination.

## Courses of Instruction

### Biochemistry 100a. Introductory Biochemistry

Chemistry, reaction and metabolism of biologically important compounds. Formation and utilization of "energy-rich" compounds. Introduction to enzyme mechanisms. Interrelation and comparison of basic biochemical and chemical processes. Metabolic regulation.

Usually offered every year. Multiple sections.

Messrs. Abeles, Lowenstein and Jencks (Sec. 1)

Mr. Hollocher (Sec. 2)

Ms. Lowey (Sec. 3)

### Biochemistry 104b. Introduction to Physical Biochemistry

Discussion of physical methods; molecular weight measurements; polyelectrolyte properties; thermodynamics of macromolecular interactions; solvent effects; principles of folding; structural and conformational analyses by various spectroscopic, X-ray techniques and magnetic methods.

Usually offered every year.

Messrs. Timasheff and Miller

### Biochemistry 140b. Introductory Neuroscience

See BIOL 140b for special notes and course description.

Usually offered every year.

Ms. Marder or Mr. Levitan

### Biochemistry 101a. Advanced Biochemistry I

A discussion of enzyme reactions, including energetics, kinetics and reaction mechanisms. Metabolism of carbohydrates, lipids, amino acids, nucleic acids, vitamins and coenzymes and hormones and inorganic substances. Coupled enzyme reactions and the synthesis of macromolecules. Regulated enzymes and regulation of metabolism.

Enrollment limited to 50 students.

Usually offered every year.

Messrs. Abeles and Jencks

### Biochemistry 148b. Advanced Topics in Neuroscience

A discussion of cellular and molecular mechanisms that generate endogenous electrical properties of nerve cells. The regulation of endogenous patterns of neurotransmitters, hormones and sensory input are discussed.

Usually offered every year.

Mr. Levitan

### Biochemistry 101b. Advanced Biochemistry II

See BCHM 101a for course description.

Usually offered every year.

Messrs. Gelles and Oprian

### Biochemistry 151b. Ion Channel Proteins

Considers the molecular properties of ion channels, the most basic element of molecular hardware in the nervous system. Examines the molecular architecture of channels and the mechanisms of channel activity. The mechanisms of voltage-dependence and ion selectivity gating are emphasized.

Usually offered in odd years.

Mr. Miller

### Biochemistry 103a. Advanced Molecular Biology

The fundamental principles of molecular biology are stressed with respect to nucleic acid biosynthesis, structure and function. In addition, mechanisms controlling the utilization of genetic information are discussed.

Usually offered every year.

Messrs. Wensink and Boles

### Biochemistry 171b. Protein X-ray Crystallography

A practical guide to the determination of three dimensional structures of proteins and nucleic acids by X-ray diffraction. Students learn theory behind diffraction from macromolecular crystals and carry out all of the calculations necessary to solve a protein structure at high resolution.

Usually offered in even years.

Mr. Petsko and Ms. Ringe

**Biochemistry 200a and b.  
Biochemistry Techniques**

Prerequisite: BCHM 101. May be taken concurrently.

Usually offered every year.

Mr. Gelles and Staff

**Biochemistry 202b.  
Chemistry of Enzyme-Catalyzed Reactions**

Deals with reaction mechanisms of catalysis in aqueous solution, some of which are relevant to enzymic catalysis.

Usually offered in even years.

Mr. Jencks

**Biochemistry 235b.  
(CHEM 235b)  
Special Topics in Organic Chemistry**

See CHEM 235b for description

 Mr. Pochapski,  
Ms. Herzfeld and  
Mr. Redfield

**Biochemistry 301b.  
Summer Laboratory Rotation**

Admission by consent of graduate advisor.

Usually offered every year.

Mr. Gelles and Staff

**Seminars**

One or two seminars are given each term. Each student presents oral or written reports on various aspects of the announced seminar topic. Topics are rarely repeated from year to year.

**Biochemistry 218a.  
Integral Membrane Proteins: Structure and Function**

Mr. Fasman

**Biochemistry 219b.  
Enzyme Mechanisms**

Messrs. Abeles and Jencks

**Biochemistry 223a.  
Biochemistry and Molecular Biology of Vision**

Mr. Oprian

**Biochemistry 224a.  
Microtubule-based Mechanoenzymes**

Mr. Gelles

**Biochemistry 225b.  
Actin-based Motility and Muscle Contraction**

Ms. Lowey

**Biochemistry 227b.  
Unusual Enzyme Systems of Bacteria**

Mr. Hollocher

**Biochemistry 233b.  
Mechanisms of Transcription and Transcriptional Regulation**

Mr. Wensink

**Biochemistry 401d.  
Biochemical Research Problems**

Independent research for the Ph.D. degree.

Specific sections for individual faculty members as requested.

Staff

**Journal Club, Colloquia and Research Clubs**

In addition to the formal courses announced above, all graduate students are expected to participate in the department's Journal Club and colloquia. The Journal Club is an informal meeting of the students, staff and postdoctoral fellows, at which recent publications are discussed. Colloquia are general meetings of the department in which both speakers from the department and guest speakers present their current investigations. Research clubs are organized by various research groups of the department.

# Biology

## Objectives

The graduate program in biology, leading to the Degree of Doctor of Philosophy, is designed to equip each student with the theoretical foundations and research experience needed to become an independent and original investigator of basic biological phenomena. Preparation is achieved through the combination of a flexible curriculum of courses tailored for each student's specific needs; a set of laboratory rotations that acquaints each entering student with current research techniques and permits exploration of possible research areas; and a series of proseminars and journal clubs that keeps students abreast of significant research findings and develops confidence with oral arguments and presentations. First-year students participate in all three aspects of our graduate program and are thus quickly integrated into the biological research community at Brandeis.

Thesis research leading to the Ph.D. degree is carried out under the personal direction of a faculty member. A complete list of faculty research interests and recent publications is available from the Biology Program. Potential applicants are urged to obtain and consult this brochure. As a general orientation, the following areas of research are among those represented in the program: molecular biology of the regulation of gene expression, especially during development; chromosome structure and chromosomal rearrangements; mechanisms of recombination; developmental genetics; behavior genetics and neural development; biophysics of single nerve cells; learning and memory; integration of neural function;

immunogenetics; immune cell differentiation and development; molecular biology of the immune system; regulation of muscle contraction; photobiology; molecular and cell architecture; organization of subcellular structures; structure and function of membrane proteins.

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. The student's undergraduate record should ordinarily include courses equivalent to those required of undergraduates concentrating in biology at this institution. Students who are deficient in some of these subjects, but whose records are otherwise superior, may make up their deficiencies while they are enrolled as graduate students. In exceptional cases, students may be excused from some of these requirements. Students with serious deficiencies must, however, expect to add additional time to their graduate program in order to satisfy the deficiencies.

Applicants must take the Graduate Record Examination.

Since the summer months provide an important opportunity for uninterrupted laboratory work, the biology program provides 12-month stipend support for all full-time students.

## Faculty

Professor  
**Attila O. Klein**  
Chair:  
Plant physiology.  
Environmental studies.

Professor  
**Carolyn Cohen**  
(Rosenstiel Center): Structural molecular biology.

Professor  
**David J. DeRosier**  
(Rosenstiel Center): Structural studies of actin, actin-containing cytoskeletal assemblies and bacterial flagella.

Professor  
**Chandler Fulton:**  
Cell differentiation and selective gene expression in eucaryotic cells. Morphogenesis of cell shape and assembly of cell organelles, especially flagella.

Professor  
**Martin Gibbs:**  
Photosynthesis and plant physiology.

Professor  
**James E. Haber**  
(Rosenstiel Center): Genetics and molecular biology of yeast mechanisms of meiotic and mitotic recombination; mating-type switching; healing of broken chromosomes; structure, function and regulation of plasma membrane ATPase.

Professor  
**Jeffrey C. Hall:**  
Neurogenetics and molecular neurobiology of higher behaviors in *Drosophila*.

Professor  
**Kenneth C. Hayes**  
(Director, Foster Biomedical Research Laboratory): Comparative nutritional pathophysiology in man and animals. Lipoprotein metabolism and atherogenesis, cholelithiasis.

Professor  
**Hugh Huxley**  
(Director, Rosenstiel Center): Structure and function of muscle.

Professor  
**John E. Lisman:**  
Mechanisms of phototransduction; molecular mechanism of memory storage.

Professor  
**Eve E. Marder:**  
Neurotransmitter modulation of neural circuits.

Professor  
**Alfred Nisonoff**  
(Rosenstiel Center): Immunochemistry. Genetic control of the immune response. Regulation of IgE.

Professor  
**Michael Rosbash:**  
RNA processing and molecular neurobiology.

Professor  
**Jerome A. Schiff:**  
Plant biochemistry  
and physiology.  
Photocontrol of  
intracellular  
development.  
Sulphur  
metabolism.

Professor  
**Andrew G.  
Szent-Györgyi:**  
Regulation of  
muscle contraction  
at the molecular  
level.

Professor  
**Kalpana P. White:**  
Developmental  
neurogenetics.

Associate Professor  
**Joan L. Press**  
(Rosenstiel Center):  
Developmental  
immunology and  
immunogenetics.

Associate Professor  
**Ranjan Sen:**  
Molecular  
immunology.  
Transcription  
factors.

Associate Professor  
**Lawrence J. Wangh:**  
Molecular controls  
of DNA replication  
in *Xenopus* eggs.

Adjunct Associate  
Professor  
**Judith E. Tsipis:**  
Genetic counseling.

Assistant Professor  
**Leslie C. Griffith:**  
Biochemistry of  
synaptic plasticity.

Assistant Professor  
**Susan T. Lovett:**  
Genetics and  
molecular biology  
of bacteria and  
yeast. Genetic and  
biochemical  
analysis of  
recombination.

Assistant Professor  
**Neil Simister**  
(Rosenstiel Center):  
Molecular  
immunology.

Assistant Professor  
**Donald Straus:**  
Development and  
gene regulation.

## Degree Requirements

### Master of Arts

#### Program of Study.

Graduate students will be eligible for a master's degree in biology if they complete six graduate-level courses in biology or biochemistry (with a grade of B- or better) and a substantial piece of research. The six graduate level courses must include courses from at least three of the research areas of the biology department. The research component can be met by satisfactory performance in three or four laboratory rotations (including submission of written rotation reports) or submission of a research thesis to the Biology Graduate Committee for review.

Residence  
Requirement.

The minimum residence requirement is three years.

Language  
Requirement.

There is no foreign language requirement for the Ph.D. degree.

Qualifying  
Examination.

The qualifying examination consists of researching two propositions in which the student identifies an important and interesting research problem and then proposes the experiments to attack it. These are written and defended orally. Part One is taken in the middle of the second year. Part Two constitutes a thesis proposal and is taken in the third year.

Dissertation and  
Defense.

Each student will conduct an original investigation. With the approval of the student's advisor, however, research courses may be elected at any time. After submission of the dissertation, the candidate will be expected to present the principal results of his or her work and its significance during an examination in defense of the dissertation. A public seminar to the University community is also required.

### Doctor of Philosophy

#### Program of Study.

Students will be expected to obtain a knowledge of the principles and techniques of the areas represented in the program, i.e., genetics, developmental biology, molecular biology, neurobiology, immunology and cell biology. The background a student is expected to have in these areas will be covered in courses given by the program. Entering students will do research rotations in at least three different laboratories. The student will be expected also to have additional background in his/her area of specialization as well as experience in seminar and research courses to be designated.

Each student will choose his/her specific field of interest and will apply for a permanent advisor to be agreed upon by the program at the end of the first year. The advisor will assist the student in planning a well-balanced program in his/her specific field of interest. In addition, the advisor will ordinarily serve as the chair of the student's dissertation examining committee.

At least one year of teaching experience (or equivalent) is required of all degree candidates.

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## Courses of Instruction

<b>Biology 100a. Photobiology of Cells and Organelles</b>	Basic photobiology including the physical and chemical background, the use of the solar spectrum by organisms and its evolution, energy storage by living systems (photosynthesis, photoassimilation and photorespiration), catalytic effects of light (perception, including vision, phototropism, phototaxis, etc.), photodestruction and photoprotection, photomorphogenesis and photometabolism and medical applications.	<b>Biology 104a. Mathematical and Physical Foundations of Structural Biology</b>	Develops rigorously the foundations of structural biology. The first part reviews the mathematical methods and physical principles required to understand how the structure of macromolecules and macromolecular assemblies is determined. The second part deals specifically with individual methods, including light macromolecules and protein crystallography.
	Usually offered every year.		Usually offered every third year.
	Messrs. Gibbs and Schiff		Will be offered Spring 1993.
			Mr. DeRosier
<b>Biology 101a. (BIOP 101a) High Resolution Structural Methods: A Case Study of Membrane Proteins</b>	Recent developments in electron microscopy have allowed, for the first time, the determination of the atomic structure of a membrane protein, in this case the light-driven proton pump. X-ray diffraction studies of the photoreaction center have revealed the atomic structure of that membrane protein. Studies these two essential methods for investigating membrane proteins at high resolution.	<b>Biology 105b. Molecular Biology</b>	Examines the molecular processes in the replication and expression of genetic information and the techniques by which this understanding has been achieved. Topics include recombinant DNA and other molecular biological techniques, structure and organization of DNA in chromosomes, DNA replication, transcription and regulation of gene expression, RNA structure and RNA processing, mRNA stability and other mechanisms of post-translational control.
	Usually offered every third year.		Usually offered every year.
	Last offered Fall 1991.		
	Mr. DeRosier		Messrs. Rosbash and Sen
<b>Biology 102b. (BCHM 102b) Structural Molecular Biology</b>	An introduction to the structural basis of molecular biology, including background material on the designs of proteins and nucleic acids and their assembly, as well as the techniques used to visualize structure. A major theme is the physical and chemical basis for specificity in molecular recognition.	<b>Biology 116a Human Osteology</b>	See ANTH 116a for special notes and course description.
	Usually offered every year.		Usually offered in even years.
	Ms. Cohen		Ms. McBrearty
<b>Biology 103b. Mechanisms of Cellular Functions</b>	Deals with recent advances in understanding the mechanism of important cellular functions. Topics include structural determinants of cell form and assembly, protein transport and targeting, motility and force generation, sensory transduction and cell cycle control.	<b>Biology 122a. Advanced Genetics</b>	A deeper and more detailed discussion of topics introduced in BIOL 21b. Two basic approaches are emphasized: cytogenetics and molecular genetics. Problems currently under investigation are discussed.
	Usually offered every third year.		Usually offered in even years.
	Last offered Fall 1991.		Ms. Lovett
	Messrs. Szent-Györgyi and Lisman	<b>Biology 125a. Immunology</b>	Topics include properties and functions of cells involved in immunity; genes, structure and function of immunoglobulins and T cell receptors; cell interactions; antigen recognition; lymphokines; tolerance; lymphocyte differentiation; genetic regulation; viral immunity; auto immunity; allergy; AIDS and vaccines.
			Usually offered every year.
			Ms. Press

Biology 127a. Biostatistics	<p>Topics include properties of random variables and several types of statistical inference—t-test, analyses of variance, correlation, linear and multiple regression and analysis of covariance and goodness of fit.</p> <p>Usually offered in even years.</p> <p>Staff</p>	Biology 143b. Developmental Neurobiology	<p>Mechanisms used in the formation of the nervous system are discussed. Topics include determination of the neuronal precursors, pattern formation in the nervous system, neuronal differentiation and mechanisms responsible for neural specificity.</p> <p>Usually offered every fourth year.</p> <p>Last offered Fall 1990.</p> <p>Ms. White</p>
Biology 128a Human Genetics	<p>Surveys patterns of inheritance, methods of linkage analysis, identification of candidate genes, strategies for genetic disease diagnoses, single gene vs. complex gene inheritance and issues in human population genetics. An emphasis is placed on quantitative aspects of human genetics.</p> <p>Enrollment limited to 30 students.</p> <p>Usually offered every year.</p> <p>Ms. Lewitter</p>	Biology 144b. The Neurobiology of Memory	<p>Topics include definition of the types of memory, genetic and pharmacological perturbations of memory and neural network approaches to memory. The principal focus is on the cellular and molecular basis of memory. Anatomical, biochemical and physiological work on long-term potentiation in the hippocampus is extensively discussed.</p> <p>Usually offered in odd years.</p> <p>Mr. Lisman</p>
Biology 132a. General Microbiology	<p>Surveys the physiology of bacteria and other microorganisms. Concentrates on those aspects of cell structure and function that are important for diverse microbial lifestyles. In addition, special attention is paid to the biology of disease-causing organisms and microbiological problems facing medicine today.</p> <p>Usually offered in odd years.</p> <p>Ms. Lovett</p>	Biology 145b. Integrative Neuroscience	<p>How the nervous system processes information and generates behavior. Topics include generation of rhythmic behaviors in invertebrates and vertebrates, structure and function of the olfactory system, somatosensory cortex and auditory and visual processing, among others.</p> <p>Usually offered every third year.</p> <p>Last offered Spring 1991.</p> <p>Messrs. Lisman and Abbott</p>
Biology 140b. Introductory Neuroscience	<p>Basic principles of neurobiology. Topics include ion channels and their role in generating resting and action potentials, basics of synaptic physiology and pharmacology, locomotion, visual processing and learning, among others.</p> <p>Usually offered every year.</p> <p>Ms. Marder</p>	Biology 146b. Behavioral Genetics	<p>Genetic bases of behaviors from simple reflexes and taxes to higher-order forms such as learning, personality traits, affective disorders, etc. After focusing on fundamental concepts, the issue of "genetic determinism of intelligence" is considered.</p> <p>Usually offered every fourth year.</p> <p>Last offered Spring 1990.</p> <p>Staff</p>
Biology 141a. Molecular Neurobiology	<p>Topics include structure-function studies of proteins that are key to neuronal function, control mechanisms that underlie brain-specific gene expression and genetic-molecular approaches to understanding specific brain processes.</p> <p>Usually offered in odd years.</p> <p>Ms. White</p>		

Biology 147a. <b>Neurogenetics</b>	Development and function of the nervous system and responses of excitable cells, studied in neurological and behavioral mutants. Characterization and manipulation of genes, defined by these mutations and using molecular biological tools. Organisms: microbes, roundworms, fruit flies and mammals. Neurobiological areas: embryonic neural development, nerve cell differentiation and pattern formation, membrane excitability, responses to visual and chemical stimuli, biological rhythms and reproductive behavior.	Biology 301b. <b>Summer Laboratory Rotation</b>	Admission by consent of graduate advisor. Offered every year. Staff
	Usually offered every third year. Last offered Spring 1991. Mr. Hall	Biology 305d. <b>Topics in Molecular Genetics and Development</b>	Offered every year. Staff
		Biology 306d. <b>Topics in Neurobiology</b>	Offered every year. Staff
		Biology 307d. <b>Topics in Immunology</b>	Offered every year. Staff
Biology 160b. <b>Human Reproductive Biology</b>	Deals with hormonal, cellular and molecular aspects of gametogenesis, fertilization, pregnancy and birth. Discusses pathological and abnormal variations which occur and the available medical technologies for intervention, correction and facilitation of these processes. Usually offered every year. Mr. Wangh	Biology 308d. <b>Topics in Plant Physiology, Biochemistry and Metabolism</b>	Offered every year. Staff
		Biology 309d. <b>Motility Journal Club</b>	Offered every year. Staff
Biology 175b. <b>Advanced Immunology</b>	Surveys recent advances in molecular immunology. Topics include the nature and specificity of the T cell receptor, mechanisms of B cell stimulation and genetic mechanisms in the generation of diversity of antibody molecules. Usually offered in odd years. Mr. Nisonoff	Biology 310d. <b>Structural Biology Journal Club</b>	Offered every year. Staff
		Biology 350d. <b>Graduate Student Research Seminar</b>	Offered every year. Staff
		<b>Research Courses</b>	
Photobiology 100a. <b>Photobiology of Cells and Organelles</b>	See BIOL 100a for special notes and course description. Usually offered every year. Messrs. Gibbs and Schiff	Biology 401d. <b>Photobiology and Plant Physiology</b>	Mr. Schiff
		Biology 402d. <b>Photobiochemistry and Plant Metabolism</b>	Mr. Gibbs
Biology 200a. <b>Proseminar</b>	Usually offered every year. Mr. Haber	Biology 403d. <b>Immunochemistry: Genetic Control of the Immune Response</b>	Mr. Nisonoff
Biology 300a and b. <b>Biological Research</b>	Primarily for the first-year student with the purpose of introducing him/her to biological research and to the work in progress in the laboratories of a number of faculty members. In consultation with the graduate advisor, the student plans a sequence of such tenures, each comprising 12 weeks or more, and then carries out experimental investigations under the guidance of the faculty members involved. Offered every year. Staff	Biology 404d. <b>Developmental Neurobiology</b>	Ms. White

Biology 405d.  
**Cell Differentiation  
and Morphogenesis**

Mr. Fulton

Biology 406d.  
**Neurophysiology**

Ms. Marder

Biology 407d.  
**Structural  
Biochemistry**

Ms. Cohen

Biology 408d.  
**Behavioral Genetics**

Mr. Hall

Biology 409d.  
**Biophysics of Visual  
Transduction**

Mr. Lisman

Biology 410d.  
**Plant Development**

Mr. Klein

Biology 411d.  
**Gene Control**

Mr. Wangh

Biology 412d.  
**Structural  
Molecular Biology**

Mr. DeRosier

Biology 413d.  
**General Physiology**

Mr. Szent-Györgyi

Biology 414d.  
**Gene Organization  
Eukaryotes**

Mr. Rosbash

Biology 415d.  
**Biochemistry and  
Genetics of  
Differentiation**

Mr. Haber

Biology 416d.  
**Immunology**

Mr. Simister

Biology 417d.  
**Muscle Physiology**

Mr. Huxley

Biology 418d.  
**Developmental  
Immunology**

Ms. Press

Biology 419d.  
**Development**

Mr. Straus

Biology 420d.  
**Nutritional  
Pathophysiology**

Mr. Hayes

Biology 421d.  
**Molecular  
Immunology**

Mr. Sen

Biology 422d.  
**Synaptic Plasticity**

Ms. Griffith

Biology 423d.  
**Mechanisms of  
Recombination**

Ms. Lovett



# Bioorganic Chemistry

## Objectives

The interdepartmental graduate program in bioorganic chemistry, leading to the degree of doctor of philosophy, is designed to give students a broad background in both organic chemistry and biochemistry, and to provide an appreciation for, and expertise in, the multiple disciplines which are currently being applied to problems at the interface of organic chemistry and biology. The program combines research opportunities in organic synthesis, organic reaction mechanisms, enzyme structure and function, molecular recognition, and structure determination of peptides and nucleic acids by X-ray crystallography and NMR spectroscopy. Thesis research will be carried out with two advisors, in accordance with the multidisciplinary aspects of bioorganic chemistry.

## Admission

The general requirements for admission to the Graduate School are listed on the Application Information Sheet. Applicants are normally expected to have strong backgrounds in physical or biological science, with undergraduate concentrations in chemistry, biochemistry, biology or pharmacology. Applications should include, in addition to three letters of reference, a personal statement giving reasons for choosing the field of bioorganic chemistry and indicating areas of special interest. Applicants are expected to take the Graduate Record Exam and are encouraged to visit Brandeis for an interview.

## Faculty Advisory Committee

Professor  
**William P. Jencks**  
(biochemistry),  
Chair

Professor  
**Barry B. Snider**  
(chemistry)

Professor  
**Gregory Petsko**  
(chemistry and  
biochemistry)

Assistant Professor  
**Thomas C. Pochapsky**  
(chemistry)

The faculty of the Bioorganic Chemistry Program is comprised of members of the biochemistry and chemistry departments. About 15 faculty members participate in this graduate program.

Professor  
**Robert H. Abeles**  
(biochemistry)

Professor  
**James B. Hendrickson**  
(chemistry)

Associate Professor  
**Dagmar Ringe**  
(chemistry and  
biochemistry)

Assistant Professor  
**Daniel D. Oprian**  
(biochemistry)

## Degree Requirements

### Doctor of Philosophy

#### Program of Study.

Each doctoral candidate must successfully complete seven courses. All participants in the program will take Biochemistry 101a, 101b, 103a, Chemistry 134b and either 131a or 133a. Students must also take at least one course dealing with spectroscopy or crystallographic methods; choices include Chemistry 132b, 229b and 235b. An additional course will be chosen from the offerings of the Chemistry and Biochemistry Departments. First-year students undertake six, six-week laboratory rotations in different laboratories in the program. In the course of their graduate career, students will present three seminars in the organic chemistry and biochemistry programs and one seminar in the bioorganic program. Thesis research is performed under the direction of two faculty members in different fields of expertise so that students will gain expertise in more than one discipline.

#### Financial Support.

Graduate students receive financial support (tuition and stipend) throughout their participation in the graduate program.

#### Teaching.

Students participate as teaching assistants for two terms.

#### Language Requirement.

Students are required to show proficiency in the use of a commonly used software package (e.g., QUANTA, MM2) and operating system (e.g., UNIX, VMS).

#### Residence Requirement

The minimum residence requirement for the Ph.D. degree is three years.

#### Qualifying Examinations.

At the end of the first year, students will develop and defend an original proposition for a research problem in his or her area of interest. In addition, students must demonstrate general knowledge of bioorganic chemistry by passing three of four area examinations. All students are expected to pass area examinations in (1) organic chemistry and (2) metabolism and enzymology. Students must also pass an examination in either (3) molecular biology or (4) spectroscopy and structure determination. Students are expected to

have completed this requirement by the end of the third year. Two of these must be completed by the end of the second year. This general knowledge outside the student's own field of specialization must be demonstrated to the satisfaction of a committee of three faculty members appointed by the Student Advisory Committee.

Dissertation and Thesis Defense.

Each doctoral candidate will submit a dissertation describing his or her research and will defend it in a Final Oral Examination.

## Courses of Instruction

Biochemistry 101a. Usually offered every year.  
Advanced  
Biochemistry I Mssrs. Abeles and Jencks

Biochemistry 101b. Usually offered every year.  
Advanced  
Biochemistry II Mssrs. Gelles and Oprian

Biochemistry 103a. Usually offered every year.  
Advanced  
Molecular Biology Mr. Wensink

Biochemistry 104b. Usually offered every year.  
Introduction to  
Physical Biochemistry Messrs. Miller and Timasheff

Biochemistry 202b. Usually offered in even years.  
Chemistry of  
Enzyme-Catalyzed Reactions Mr. Jencks

Bioorganic  
Chemistry 200a/b. Usually offered every year.  
Bioorganic Seminar Staff

Chemistry 111a. Usually offered every year.  
Computational  
Chemistry Mr. Jordan

Chemistry 131a. Usually offered every year.  
Advanced Organic  
Chemistry: Structure and  
Reactivity Mr. Hendrickson

Chemistry 132b. Usually offered every year.  
Advanced Organic  
Chemistry: Mr. Pochapsky  
Spectroscopy

Chemistry 133a. Usually offered every year.  
Advanced Organic  
Chemistry: Staff  
Mechanism

Chemistry 134b. Usually offered every year.  
Advanced Organic  
Chemistry: Mr. Snider  
Synthesis

Chemistry 137b. Usually offered every year.  
Chemistry of  
Organic Natural Products Mr. Hendrickson

Chemistry 229b. Usually offered every third year.  
Introduction to  
X-ray Structure Determination Mr. Foxman

Chemistry 235b. Usually offered every third year.  
Advanced NMR  
Spectroscopy Mr. Pochapsky

# Biophysics

## Objectives

The interdepartmental graduate program in biophysics, leading to the degree of Doctor of Philosophy, is designed to provide a broad background in the physics and chemistry of living processes and to develop the student's capacity for independent research. The program offers opportunity for study and research in biophysical chemistry, structural biology, protein crystallography, neuroscience and photobiology. Applicants are expected to have strong backgrounds in physical science with undergraduate concentrations in biology, biochemistry, chemistry, mathematics, physics or engineering.

## Admission

The general requirements for admission to the Graduate School are given in an earlier section of this catalog. Applications should include, in addition to letters of reference, a personal statement giving reasons for choosing biophysics and indicating areas of interest. Applicants are required to take the Graduate Record Examination and are encouraged to visit Brandeis for interviews, if possible.

## Faculty Advisory Committee

Professor  
**Dagmar Ringe**  
(chemistry and  
biochemistry),  
Chair

Professor  
**Donald Caspar**  
(physics)

Professor  
**John E. Lisman**  
(biology)

Professor  
**Alfred G. Redfield**  
(physics and  
biochemistry)

The faculty of the Biophysics Program is comprised of members of the biochemistry, biology, chemistry and physics departments. About 20 faculty members participate in this graduate program.

Professor  
**Carolyn Cohen**  
(biology)

Professor  
**Judith Herzfeld**  
(chemistry)

Professor  
**Christopher Miller**  
(biochemistry)

## Degree Requirements

### Doctor of Philosophy

#### Program of Study.

Since biophysics is a very broad field and students may have widely different backgrounds and goals, the course of study is flexible. During the first year, students take BIOP 300, a course in which students meet with selected faculty members to explore areas of research. Students are also required to successfully complete BIOP 200b. In addition, students generally complete the following courses: Advanced Biochemistry (BCHM 101a), Introduction to Physical Biochemistry (BCHM 104b), Structural Molecular Biology (BIOL 102b) and The Electron Microscope (BIOL 101a). Courses to complete the student's program will depend on the student's background and interests. The additional courses may be in the areas of biochemistry, biology, biophysics, chemistry, mathematics, photobiology or physics.

#### Residence Requirement.

The minimum residence requirement is three years.

#### Language Requirements.

Reading knowledge of one foreign language, chosen from French, German or Russian. A knowledge of computer programming may be substituted.

#### Dissertation and Defense.

Each doctoral candidate will submit a dissertation describing his/her research and will be required to defend it in a Final Oral Examination.

## Courses of Instruction

### Biophysics 200b. Seminar in Biophysical Research

This is a required seminar for first-year biophysics students. The seminar is designed to introduce students to quantitative approaches to biological problems through critical evaluation of the biophysical literature. The seminar will not be focused on any particular subject area, but instead will give students practice in attacking problems in a wide range of areas by essentially the same technique: the use of physical and mathematical reasoning. Each week one or two papers that are particularly well suited to quantitative analysis will be chosen and prepared by a "team" of students. The discussion will be aimed at identifying the "core idea" of the papers and at transforming this idea into quantitative, testable predictions. Topics include macromolecular structure and function, spectroscopic methods of structure determination, thermodynamics of ligand-macromolecule interactions, stochastic approaches to electrophysiology and electrostatics of macromolecular surfaces, among others, which will vary from year to year. In consultation with the seminar instructor, each student will develop a research proposition based on independent reading and will prepare a research plan in the form of a mock-thesis proposal. Open to graduate students in other sciences with permission of the instructor.

Offered every year.

Mr. Pochapsky

### Biophysics 300a or b. Introduction to Research in Biophysics

Students carry out a project in the research laboratory of one of the faculty members. Projects and faculty are selected from the departments of biochemistry, biology, chemistry and physics. At least three terms of Biophysics 300 are required.

Offered every year.

Staff

### Biophysics 301b. Summer Laboratory Rotation

Admission by consent of graduate advisor.

Offered every year.

Staff

Following is a partial list of advanced courses that may be of interest to students in the Biophysics Program.

### Biochemistry 104b. Introduction to Physical Biochemistry

Usually offered every year.

Messrs. Miller and Timasheff

### Biology 100a. Photobiology of Cells and Organelles

Usually offered every year.

Messrs. Gibbs and Schiff

### Biology 101a. High Resolution Structural Methods: A Case Study of Membrane Proteins

Usually offered every third year.

Mr. DeRosier

### Biology 102b. Structural Molecular Biology

Usually offered every year.

Ms. Cohen

### Biology 103b. Mechanisms of Cellular Functions

Usually offered every third year.

Messrs. Szent-Györgyi and Lisman

### Biology 104a. Mathematical and Physical Foundations of Structural Biology

Usually offered every three years.

Mr. DeRosier

### Biology 105b. Molecular Biology

Usually offered every year.

Messrs. Rosbash and Sen

### Biology 140b. Introductory Neuroscience

Usually offered every year.

Ms. Marder

### Biology 144b. The Neurobiology of Memory

Usually offered in even years.

Mr. Lisman

### Biology 145b. Integrative Neuroscience

Usually offered every third year.

Messrs. Lisman and Abbott

Students register for Dissertation Research in the 400 series with a faculty member in the program in which they are doing their research.

Chemistry 132b.  
**Advanced Organic  
Chemistry:  
Spectroscopy**

Usually offered every year.

Mr. Pochapsky

Chemistry 141b.  
**Kinetics**

Usually offered every year.

Mr. Steel

Chemistry 229b.  
**Special Topics in  
Inorganic  
Chemistry:  
Introduction to  
X-ray Structure  
Determination**

Usually offered every third year.

Mr. Foxman

Physics 152b.  
**Biological Assembly**

Usually offered every third year.

Mr. Caspar

## Chemistry

### Objectives

The graduate program in chemistry, comprising course work, seminar participation and research is designed to lead to a broad understanding of the subject. The graduate program leads to the M.A. and Ph.D. degrees in chemistry. The Ph.D. is offered with specializations in inorganic, organic and physical chemistry and chemical physics. (Detailed information on the interdisciplinary specialization in chemical physics is found following the listing of chemistry courses.) All students will be required to demonstrate knowledge in advanced areas of inorganic, organic and physical chemistry. The doctoral program is designed to be flexible so that individual programs of study may be devised to satisfy the particular interests and needs of each student. In each case this program will be

decided by joint consultation between the student, the Graduate Studies Committee and the thesis supervisor, when selected. The doctoral program will normally include a basic set of courses in the student's own area of interest, to be supplemented by advanced courses in chemistry and, where appropriate, biochemistry, biology, mathematics and physics.

### Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to the graduate program in chemistry. In addition, the undergraduate curriculum of applicants should include courses in physics and mathematics (differential and integral calculus) and courses in general, inorganic, organic and physical chemistry.

### Faculty

Professor  
**Barry B. Snider**  
Chair:  
Development of  
new synthetic  
methods;  
mechanism of  
synthetically  
important  
reactions; total  
synthesis of  
natural products.

Professor  
**Irving R. Epstein:**  
Oscillating  
chemical reactions  
and dynamic  
instabilities;  
mathematical  
modeling of  
biochemical  
kinetics; polymer  
aggregation and  
networks in neural  
systems.

Professor  
**Bruce M. Foxman:**  
X-ray structure  
determination;  
coordination  
polymers;  
chemical, physical  
and  
crystallographic  
studies of  
solid-state  
reactions;  
automatic solution  
of crystal  
structures using  
novel computer  
techniques.

Professor  
**Michael  
Henchman:**  
Chemistry of ions  
in the gas phase;  
solvation; acidity  
and superacidity;  
isotopic  
fractionation in  
interstellar  
molecules.

Professor  
**James B.  
Hendrickson:**  
Synthesis of  
natural products;  
computerization of  
synthesis design  
and development  
of new synthetic  
reactions.

Professor  
**Judith Herzfeld:**  
Theory of  
spontaneous  
crowded order in  
solutions of  
self-assembling  
proteins and  
surfactants; solid  
state NMR studies  
of structure and  
function in  
biological  
membranes.

Professor  
**Peter C. Jordan:**  
Statistical  
mechanics of  
membrane  
transport;  
electrostatic  
modeling of ion  
pores; molecular  
dynamics; theories  
of ionic solvation.

Professor  
**Philip M. Keehn:**  
Synthetic methods,  
organic synthesis  
of strained rings  
and theoretically  
interesting  
molecules;  
host-guest  
complexes; plant  
medicinals;  
applications of  
NMR spectroscopy  
to organic systems;  
photooxidation;  
pure and applied  
laser chemistry of  
organic systems.

Professor  
**Iu-Yam Chan**  
Graduate Advisor:  
Magnetic  
resonance,  
coherent  
phenomena and  
high-resolution  
optical  
spectroscopy under  
high pressure.

<p><b>Professor Kenneth Kustin:</b> Inorganic biochemistry; vanadium and iron in tunicate blood cells and human tissues; fast reactions; oscillating reactions.</p> <p><b>Professor Gregory Petsko</b> (Rosenstiel Center and Biochemistry): Protein crystallography, especially direct observation of transient species by low-temperature and Laue methods; signal transduction in allergy and chemotaxis; protein dynamics; protein engineering; structure/function of p-glycoproteins.</p>	<p><b>Professor Myron Rosenblum:</b> Chemistry of organometallic complexes of the transition elements. New methods in organic synthesis employing organometallic complexes. Electroactive organometallic polymers.</p> <p><b>Professor Colin Steel:</b> Chemistry of excited molecules and radicals; the kinetics and mechanisms of photochemical and thermal reactions; photophysics and photochemistry of infrared laser-induced reactions.</p>	<p><b>Professor Robert Stevenson:</b> Isolation and structure of natural products; compounds of medicinal interest (steroids, terpenoids, lignans, heterocyclics).</p> <p><b>Professor Thomas R. Tuttle:</b> Chemistry of liquid solutions; the composition and structures of species in metal solutions in polar solvents; application of spectroscopy, e.g., magnetic resonance, optical and spectropolarimetry to elucidation of the composition and structure of solutions; theory of chemical species in solution.</p>	<p><b>Associate Professor Dagmar Ringe</b> (Rosenstiel Center and Biochemistry): Protein crystallography and protein engineering. Rational drug design, especially for proteases; mechanisms of enzymatic catalysis by diffraction and mutagenesis; structure and function of aminotransferases; modular protein design.</p>	<p><b>Assistant Professor James H. Davis, Jr.:</b> Organometallic chemistry. Preparation and characterization of organometallic oxo compounds, particularly species in which oxo ligands bridge organometallic and classically inorganic metal centers. Preparation of organic complexes of main group elements.</p>	<p><b>Assistant Professor Thomas C. Pochapsky:</b> Design and synthesis of molecular recognition systems; transient interactions in solution by NMR; NMR of soluble proteins; protein stability and folding by NMR and mutagenesis.</p>
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## Degree Requirements

	<p>Detailed information on the interdisciplinary specialization in chemical physics is found following the listing of chemistry courses. Entering students may be admitted to either the master's or the doctoral program. All candidates for advanced degrees are required to meet the following requirements:</p>	<p><b>Teaching.</b></p>	<p>It is expected that all graduate students will do some undergraduate teaching during the course of their studies.</p>
<p><b>Qualifying Examination.</b></p>	<p>Each student is expected to demonstrate a satisfactory knowledge of undergraduate chemistry in qualifying examinations in physical, organic and inorganic chemistry. These examinations are set twice a year, before the start of each term. The results of these examinations will determine the student's initial program of course work and will be considered by the Graduate Studies Committee in evaluating the student's progress.</p>	<p><b>Placement and Evaluation of Progress.</b></p>	<p>Recommendations for the course of study in the first year will be based upon the performance on the qualifying examinations. Admission to the Ph.D. degree program will be based on the student's record in course work during the first year and his/her performance on the qualifying examinations. Further progress will be evaluated on a yearly basis by the Graduate Studies Committee.</p>
<p><b>Language and Computer Programming Requirements.</b></p>	<p>There is no foreign language requirement for the M.A. degree. Each student in the organic and inorganic Ph.D. program must demonstrate a useful reading knowledge of scientific French, German or Russian within the first two years of residence. Each student in the physical chemistry Ph.D. program must demonstrate a working knowledge of Fortran, Basic or C.</p>	<p><b>Master of Arts Program of Study.</b></p>	<p>Each candidate is required to successfully complete one year of study at the graduate level in chemistry, or, with prior permission of the Graduate Studies Committee, in related fields. The program will include laboratory work and, normally, five term courses at the graduate level. The detailed program of study will be chosen jointly by the candidate and the Graduate Studies Committee to reflect the candidate's area of interest as well as a perspective of other areas.</p>
<p><b>Seminar.</b></p>	<p>Each student in residence is required to attend and participate in the seminar in his/her chosen area of concentration throughout the period of graduate study. Each student is expected to present two seminars during his/her residence.</p>	<p><b>Residence Requirement.</b></p>	<p>The minimum residence requirement for the M.A. degree is one year.</p>

**Doctor of Philosophy**

<b>Program of Study.</b>	A balanced program of study will be prepared by the students and the Graduate Studies Committee. In general, students will be required to take a minimum of seven graduate-level courses, of which two must lie outside the student's field of research. If a student fails to pass a qualifying examination after two attempts, a graduate course must be taken in that area of chemistry before the end of the second year. A list of courses appropriate for this purpose is available upon request. For students entering with a master's degree or the equivalent, two to five courses may be transferred for credit. It is expected that doctoral students will choose a research advisor during the first year, normally in the second term.	
<b>Residence Requirement.</b>	The minimum residence requirement is three years.	<b>Dissertation and Defense.</b>
<b>Final Examinations.</b>	The graduate student must demonstrate proficiency by taking final examinations in his/her major field: organic, physical or inorganic chemistry. In the organic chemistry program, a cumulative examination procedure is used. Each year, six one-hour examinations (on unannounced topics) and one three-hour examination (on an announced reading) are given. Each one-hour examination passed is worth one unit and each reading examination is worth up to three units depending upon the pass level. The final examination requirement is satisfied by the student having accumulated	nine units of which no more than six are from reading examinations. In physical chemistry and inorganic chemistry, the student is assigned a set of propositions generally during the third term of graduate work. In physical chemistry the set consists of three propositions; the student takes a written examination on one proposition and is examined orally on all three. In inorganic chemistry the student is assigned two propositions. He/she takes a written examination on one proposition and is examined orally on a research proposal (supplied either by the student or faculty) and the remaining proposition. Students in all fields must maintain satisfactory progress by passing these examinations.  A dissertation is required that describes the results of an original investigation and demonstrates the competence of the candidate in independent investigation, critical ability and effectiveness of expression. The student must successfully defend the dissertation in a Final Oral Examination.

**Courses of Instruction**

<b>Chemistry 110b. Instrumental Analytical Chemistry</b>	Techniques of instrumental chemical analysis. Application of instrumental methods to the separation and analysis of complex mixtures. Students rotate through ongoing research laboratories. Data treatment includes computers in the analytical chemistry laboratory.  Usually offered in odd years.  Staff	<b>Chemistry 121a. Inorganic Chemistry I, Lectures</b>	Symmetry, structure and bonding in inorganic compounds. Solid state chemistry. Ionic and electronic conductors, including superconductors.  Usually offered every year.  Mr. Foxman
<b>Chemistry 111a. Computational Chemistry</b>	Topics include two or three of the following: small molecule modeling, biomolecular modeling, numerical integration methods, quantum mechanical modeling, least squares analyses, design of synthesis and data analysis. Practice in use of common software with consideration of their capabilities.  Usually offered in even years.  Mr. Jordan	<b>Chemistry 122b. Inorganic Chemistry II, Lectures</b>	Transition metal chemistry: classical coordination compounds and organometallics. Descriptive chemistry of main group compounds. Inorganic rings, chains and clusters.  Usually offered every year.  Mr. Davis
		<b>Chemistry 130a. Advanced Organic Chemistry: Structure</b>	Introduction to group theory and its application to molecular orbital theory and spectroscopy.  Usually offered every year.  Mr. Rosenblum

**Chemistry 131a.  
Advanced Organic  
Chemistry: Topics  
in Structure and  
Reactivity**

Broad coverage of organic reactions based on a systematic and simplifying organization of all reactions. Both a theoretical overview and a practical view of the detail are presented.

Usually offered every year.

Mr. Hendrickson

**Chemistry 132b.  
Advanced Organic  
Chemistry:  
Spectroscopy**

Application of spectroscopy to the elucidation of structure and stereochemistry of organic compounds, with special emphasis on modern NMR methods.

Usually offered every year.

Mr. Pochapsky

**Chemistry 133a.  
Advanced Organic  
Chemistry:  
Mechanisms**

Principles of the determination of reaction mechanisms. Substituent effects. Mechanisms of nucleophilic and electrophilic substitution reactions. Carbocation chemistry. Mechanisms of addition and elimination. Acidity and basicity.

Usually offered every year.

Staff

**Chemistry 134b.  
Advanced Organic  
Chemistry:  
Synthesis**

Modern synthetic methods are covered, with an emphasis on mechanism and stereochemical control. Formation of carbon-carbon single and double bonds and carbocycles and procedures for oxidation, reduction and functional group interchange are discussed. Selected total syntheses are examined.

Usually offered every year.

Mr. Snider

**Chemistry 137b.  
The Chemistry of  
Organic Natural  
Products**

Natural products chemistry is surveyed within one or two specific natural classes, with reference to occurrence, isolation, structure elucidation, group interconversion, synthesis and biogenesis.

Usually offered every year.

Mr. Stevenson

**Chemistry 141a.  
Chemical  
Thermodynamics**

Statistical, classical and irreversible thermodynamics; principles, tools and applications.

Usually offered every year.

Mr. Jordan

**Chemistry 141b.  
Kinetics**

Rate laws and experimental methods. Energy transfer. Experimental and theoretical study of reactions in the gas phase and in solution. Enzyme kinetics and inhibition. Nonlinear dynamics and oscillating reactions.

Usually offered every year.

Mr. Steel

**Chemistry 142a.  
Quantum Chemistry**

Solutions of the Schrodinger equation for simple systems. Matrix mechanics. Operator techniques and approximation methods. Atoms. Symmetry in molecular quantum mechanics. The Born-Oppenheimer separation. Diatomic molecules.

Usually offered every year.

Staff

**Chemistry 145b.  
Special Topics in  
Chemistry**

Topics vary from year to year.

Usually offered every third year.

Last offered Spring 1989.

Staff

**Chemistry 150c.  
Special Topics in  
Chemistry**

Topics vary from year to year.

Usually offered every third year.

Last offered Spring 1992.

Staff

**Chemistry 200d.  
Advanced  
Chemistry  
Laboratory**

Usually offered every year.

Staff

**Chemistry 220c.  
Inorganic  
Chemistry Seminar**

Required of graduate students in inorganic chemistry, who must audit this course each year.

Offered every year.

Staff

**Chemistry 229b.  
Special Topics in  
Inorganic  
Chemistry:  
Introduction to  
X-ray Structure  
Determination**

Basic diffraction and space group theory, practical manipulations of crystals and X-ray diffraction equipment, solving crystal structures and interpretation of structural chemistry. Course will feature self-paced tutorials on the VAX 8650.

Usually offered every third year.

Mr. Foxman



**Chemistry 231c.  
Organic Chemistry  
Seminar**

Required of graduate students in organic chemistry, who must audit this course each year.

Offered every year.

Staff

**Chemistry 232b.  
Heterocyclic  
Chemistry**

The nature of aromatic heterocycles will be surveyed, followed by detailed discussion of their characteristic reactions and modes of synthesis. The course is organized to show a general predictive framework behind the details. Emphasis is placed on the mechanisms of heterocycle reactions.

Usually offered in odd years.

Mr. Hendrickson

**Chemistry 234b.  
Chemistry of  
Organometallic  
Compounds**

The chemistry of organo-transition metal complexes, including their structures, chemical reactions and use as reagents in organic synthesis.

Usually offered every third year.

Mr. Rosenblum

**Chemistry 235b.  
Special Topics in  
Organic Chemistry**

A detailed discussion of modern NMR methods will be presented. The course is designed so as to be accessible to non-specialists, but still provide a strong background in the theory and practice of modern NMR techniques. Topics include the theory of pulse and multidimensional NMR experiments, chemical shift, scalar and dipolar coupling, NOE, spin-operator formalism, heteronuclear and inverse-detection methods, Hartmann-Hahn and spin-locking experiments. Experimental considerations such as pulse sequence design, phase cycling and gradient methods will be discussed. Guest lecturers will provide insight into particular topics such as solid-state NMR and NMR instrumental design.

Usually offered in even years.

Mr. Pochapsky

**Chemistry 241c.  
Physical Chemistry  
Seminar**

Required of graduate students in physical chemistry, who must audit this course each year.

Offered every year.

Staff

**Chemistry 243b.  
Statistical  
Thermodynamics**

Elementary statistical mechanics of ensembles of molecules and applications to thermodynamic systems.

Usually offered every third year.

Staff

**Chemistry 245a.  
Thermodynamics of  
Ionic Solvation**

Experimental methods for determining the thermodynamic quantities pertaining to ionic solvation: solubilities, electrochemical cell potentials and colligative properties. The structures of dilute ionic solutions: Deybe-Huckel theories, theories of ionic association, ionic size, single ion solvation energies. Measurements of ionic activity coefficients and ionic association equilibrium constants. Relationship of the spectroscopic properties of solvated ions to their thermodynamic properties. Determination of single ion quantities. Relationship of the properties of ion-solvent clusters to solvation.

Usually offered in even years.

Staff

**Chemistry 250c.  
Chemical Physics  
Seminar**

Required of graduate students in chemical physics, who must audit this course each year.

Offered every year.

Staff

**Research Courses****Chemistry 401d.  
Organic Chemistry**

Chemistry of natural products; steroids, triterpenoids, bisarylpropanoids, benzofurans.

Mr. Stevenson

**Chemistry 403d.  
Organic Chemistry**

Chemistry of organometallic complexes of the transition elements. New methods in organic synthesis employing organometallic complexes. Electroactive organometallic polymers.

Mr. Rosenblum

**Chemistry 404d.  
Organic Chemistry**

Synthesis of natural products; development of new synthetic reactions; computerization of synthesis design systematics.

Mr. Hendrickson

**Chemistry 405d.  
Biochemistry**

Structure and function proteins by X-ray crystallography, site-directed mutagenesis and molecular dynamics simulations. Time-resolved studies of enzyme catalysis by Laue diffraction. The structural basis of the allergic response. Multi-drug resistance and the cystic fibrosis of gene product.

Mr. Petsko

**Chemistry 407d.  
Biochemistry**

Structure and function of proteins by kinetic and structural methods, coupled with low temperature and time-resolved diffraction methods; structures of native and mutant proteins, complexed and uncomplexed, aimed at modeling of active sites and specific inhibitors.

Ms. Ringe

Chemistry 408d. <b>Physical Chemistry</b>	Experimental and theoretical study of chemical species in solution. Spectroscopic investigations of metal solutions in polar solvents.  Mr. Tuttle	Chemistry 417d. <b>Organic Chemistry</b>	Organic synthesis of strained rings and theoretically interesting molecules, synthetic methods, enclathration and host-guest complexation in tri-o-thymotide, plant medicinals, application of nuclear magnetic resonance spectroscopy to organic systems, photooxidation, thermal chemistry and pure and applied laser chemistry of organic systems.  Mr. Keehn
Chemistry 409d. <b>Inorganic Chemistry</b>	Inorganic biochemistry, vanadium and iron in tunicate blood cells and human tissues, fast reactions and oscillating reactions.  Mr. Kustin	Chemistry 419d. <b>Inorganic Chemistry</b>	X-ray structure determination; coordination polymers; chemical, physical and crystallographic studies of solid-state reactions and automatic solution of crystal structures using novel computer techniques.  Mr. Foxman
Chemistry 410d. <b>Biophysical Chemistry</b>	Experimental and theoretical studies of long-range order in self-assembling systems and functional mechanisms in biological membranes.  Ms. Herzfeld	Chemistry 421d. <b>Organic Chemistry</b>	Synthetic methodology and natural product synthesis. Carbon-carbon bond forming reactions of alkenes and their application to natural product synthesis, intramolecular reactions, oxidative free-radical cyclizations, ketene cycloadditions, ene and Prins reactions and synthesis of biologically active natural products.  Mr. Snider
Chemistry 411d. <b>Physical Chemistry</b>	Chemistry of excited molecules and radicals and the kinetics and mechanisms of photochemical and thermal reactions. Photophysics and photochemistry of infrared laser-induced reactions.  Mr. Steel	Chemistry 423d. <b>Organic Chemistry</b>	Multimolecular complexes, amino acid residue side-chain interactions in peptides and proteins by NMR, globular protein stability and protein structure by 2D NMR methods.  Mr. Pochapsky
Chemistry 413d. <b>Physical Chemistry</b>	Membrane transport, electrostatic modeling of ion pores, molecular dynamics of ionic motion in biological molecules and theories of ionic solvation.  Mr. Jordan	Chemistry 424d. <b>Inorganic Chemistry</b>	Preparation and characterization of main group compounds containing bonds to CO or pi-bonded olefins and acetylenes. Synthesis and characterization of compounds containing multiple bonds between carbon and main group elements. Heteroatom-allyl complexes of transition metals and main-group elements. Reaction chemistry of organometallic oxo complexes.  Mr. Davis
Chemistry 414d. <b>Physical Chemistry</b>	Kinetic studies of the reactions and properties of ions and solvated ions in the gas phase.  Mr. Henschman	Chemistry Colloquium	Lectures by faculty and invited speakers. Required of all graduate students. Noncredit.
Chemistry 415d. <b>Physical Chemistry</b>	Experimental and theoretical studies of oscillating chemical reactions and dynamic instabilities; theoretical approaches to neurobiology and neural networks; mathematical modeling of biochemical kinetics and polymer aggregation.  Mr. Epstein		
Chemistry 416d. <b>Physical Chemistry</b>	High-pressure effects on triplet state molecule, dynamical processes in molecular crystals studied by spin echo under pressure, high-resolution optical spectroscopy under pressure, Davydov splittings and electron-phonon coupling.  Mr. Chan		

## Chemical Physics

### Objectives

#### Ph.D. in Chemistry with Specialization in Chemical Physics

The graduate program in chemical physics is an interdisciplinary specialization designed to meet the needs of students who wish to prepare themselves for the study of scientific problems using the methods and theories of modern physics and physical chemistry. This objective is attained by (1) formal course work in chemistry, physics and, possibly, mathematics; (2) participation in relevant graduate seminars; (3) a program of supervised research involving chemical physics and (4) independent study.

The program is designed to be flexible in providing individual programs of study to satisfy the particular interests and needs of each student. Final programs of study and research will be jointly arrived at by the student, his/her research supervisor and the Chemical Physics Committee. Only candidates for the Ph.D. will be accepted.

### Admission

The general requirements for admission to the Graduate School apply to candidates for admission to the graduate program in chemical physics. Applicants should have a strong undergraduate background in chemistry, physics and mathematics.

### Degree Requirements

No master's degree is offered with specialization in chemical physics, but students who satisfy the appropriate requirements will be eligible for the M.A. degree in chemistry.

All candidates for the Ph.D. degree in chemistry with specialization in chemical physics must meet the following requirements:

#### Qualifying Examinations.

Each student is expected to demonstrate a satisfactory knowledge of undergraduate chemistry, physics and mathematics by the performance in three qualifying examinations: organic or inorganic chemistry and one each in physical chemistry and physics/mathematics. These examinations are set twice a year, in August and January. The results of these examinations will determine the student's initial program of course work and also be considered by the Chemical Physics Committee in evaluating the student's progress.

#### Language and Computer Programming Requirements.

There is no foreign language requirement for the Ph.D. degree in chemical physics. Each student must demonstrate a working knowledge of Fortran, Basic or C.

#### Seminar.

Each student in residence is required to attend and to participate in the Chemical Physics Seminar. Participation in other seminars in physics and chemistry is also recommended.

#### Teaching.

It is expected that all graduate students will do some undergraduate teaching during the course of their studies.

### Doctor of Philosophy

#### Program of Study.

It is expected that some candidates for the Ph.D. degree in chemistry with specialization in chemical physics may require a longer period of time in course work than will students in either of the fields of physics or chemistry. In general, the program for the Ph.D. in chemistry with specialization in chemical physics will include eight term graduate courses: four in physical chemistry, one in either organic or inorganic chemistry and three in physics. No specific course work in mathematics is required, but students are expected to be familiar with the techniques necessary for the proper pursuit of their research. In addition, each student is expected to demonstrate a knowledge of elementary computer programming.

Students may satisfy their program's course requirements in part or in entirety by passing (or giving evidence of ability to pass) the final examination in the appropriate number of such courses. Courses in areas related to chemistry and physics may also be considered by the Chemical Physics Committee in partial fulfillment of the requirements.

#### Final Examinations.

Final examinations in chemical physics are generally taken during the third term of graduate work. The student is assigned a set of three propositions; the student takes a written examination on one proposition and is examined orally on the remaining two.

#### Residence Requirements. Dissertation and Defense.

The minimum residence requirement for the Ph.D. degree is three years. A dissertation is required that describes the results of an original investigation and demonstrates the competence of the candidate in independent investigation, critical ability and effectiveness of expression. An oral defense of the dissertation will be held.

# Cognitive Science

See Psychology

## Comparative History

### Objectives

The graduate program in comparative European history leads to the degree of Doctor of Philosophy. Applicants wishing to take only the degree of Master of Arts are welcome to apply for admission to a special program described below.

The Graduate Program trains students to approach the past from a comparative perspective. This method represents the most fruitful way to interpret the past, and the program fosters it in two ways. First, students will develop expertise in two broad fields of history—either medieval and early modern or early modern and modern. Second, they will study their fields from a thematic approach that transcends national boundaries and moves away from conventional periodization.

The Comparative History Program gives students a broad understanding of the development of Europe and fosters the ability to make cross-cultural comparisons. The thematic approach is central to the process. The Brandeis history faculty is exceptionally diverse in its interests and offers the student a variety of approaches to the past: the study of political structure, economics, the family, social organization, psychohistory, culture and thought. Each student will read widely on two of these subjects and in the process learn what developments were unique and which ones were comparable over time and space.

Finally, students will take a non-European field in history drawn from the Americas, the Middle East, Africa or East Asia. This outside field may also be completed in such related graduate programs as anthropology, economics, English and American literature, the Joint Program of Literary Studies, Near Eastern and Judaic Studies, politics or sociology.

The program is designed to prepare students for the competitive academic environment of the next decade. It trains them in methods of historical research and equips them to teach a broad range of subjects. On a deeper level, comparative history fosters intellectual flexibility and interdisciplinary skills that can be creatively employed both inside and outside academia.

A small, select student body will work in close cooperation with the faculty. Most instruction will take place in seminars specifically designed for graduate students or

in individual conferences with faculty advisors. From the beginning, the curriculum will help students prepare for their qualifying examinations and guide them toward eventual dissertation research.

During the first year, students must prepare a major research paper on a topic chosen in consultation with a principal advisor. The paper may be comparative in research (involving two or more symmetrical case studies), or it may focus upon a single case (with that research informed by a reading of secondary literature on similar cases). The paper constitutes the major intellectual enterprise of the first year, and students devote one-quarter of their time to it in the first year.

The student will also enroll in two introductory graduate colloquia, which cover the early modern and modern periods. During both of their first two years of residence, students must also enroll in the comparative history seminar, which treats significant problems in comparative perspective and introduces students to the methods and issues in comparative history. Students must also enroll in the historiography colloquium (offered alternate years). Finally, before they may take the qualifying examination all students must complete a tutorial or other work focusing on a part of the world geographically or chronologically removed from their principal area of specialization with a view to gaining a comparative perspective on their major research interest.

Students are expected to have a general mastery of major and a minor field of history, either medieval, early modern (1450–1750) or modern (1750–present). Two faculty will examine in the major field; one faculty member shall examine for the minor field. The first-year colloquia shall provide the basic groundwork for field preparation. By the beginning of the fourth semester the student must submit a working oral bibliography, which will serve as the basis for the qualifying exam, to be administered at the end of the fourth semester. The exact delimitation of the major and minor fields is to be made by the student and examiners, with the formal approval of the chair of the Comparative History Program.

Students should normally plan to complete all work for the doctorate, including the dissertation, within four to five years after entering the program; prolongation of study past the sixth year is discouraged.

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to the Master of Arts Program. Students with a sound preparation in history and who have demonstrated unusual imagination and critical insight will receive special consideration. Undergraduate majors in the other social sciences or in allied fields such as comparative literature may, however, apply. Applicants should submit a sample of written work, preferably in European history.

Students may be admitted for full- or part-time work. Partial scholarship assistance is available for a limited number of exceptional candidates.

## Master of Arts

This one-year, full-time program has the following requirements:

Each student must pass an examination in one foreign language. Each student will take a one-semester colloquium in Early Modern Comparative History; a one-semester colloquium in Modern European Comparative History; a one-semester seminar in Comparative History, the specific topic of which varies from year to year; the Research Seminar; a two-semester course in which each student writes a major research paper and addresses issues of historiography and methodology; and three other one-semester graduate courses in history.

## Faculty

Professor  
**Eugene C. Black**  
Chair:  
Modern history.  
Political and social  
institutions.

Professor  
**Rudolph Binion:**  
Modern history.  
Culture and  
thought.  
Psychohistory.

Professor  
**Samuel K.  
Cohn, Jr.:**  
Renaissance and  
early modern  
history.

Professor  
**David H. Fischer:**  
Modern history.  
Social institutions.

Professor  
**Gregory Freeze:**  
Russia and  
Germany. Social  
history.

Professor  
**Jacqueline Jones:**  
American Southern  
and women's  
history.

Professor  
**Morton Keller:**  
Legal and political  
institutions.

Visiting Professor  
**Antony Polonsky:**  
East European  
social and  
intellectual history.

Professor  
**Ibrahim Sundiata:**  
African history.  
Social and ethnic  
history.

Professor  
**Bernard  
Wasserstein:**  
Modern European,  
Jewish and Middle  
Eastern history.

Associate Professor  
**Silvia Arrom:**  
Latin America.  
Women's history.

Associate Professor  
**William E. Kapelle:**  
Medieval history.

Associate Professor  
**Alice Kelikian:**  
Modern history.  
Social institutional  
history.

Associate Professor  
**James Kloppenberg:**  
Intellectual and  
cultural history.

## Degree Requirements

### Master of Arts

An M.A. degree in history will be awarded to those students who have satisfactorily completed one year of residence as full-time students, completed the mandated first-year courses, fulfilled the language requirement and completed their research seminar requirement.

### Doctor of Philosophy

#### Program of Study.

During the first year in the program, students will complete a major research paper and the two colloquia in European history. Within the first two years, they must also take a historiography course and two seminars in comparative history, besides fulfilling the outside-field requirement.

#### Residence Requirement.

The minimum residence requirement is three years.

#### Language Requirement.

The use of foreign languages is an essential tool for the comparative historian. Each student will be expected to pass, upon admission, one language examination testing the ability to read historical prose with a dictionary. The second language examination must be passed before taking the qualifying examination. All students must show competence in French and German. Medieval students must also pass Latin. Students may in some instances petition to substitute a language appropriate to their research interests for either French or German.

#### Qualifying Examination.

Each student will take the qualifying examination at the end of the fourth term. Any student who has failed to complete the qualifying examination by the fifth term will be dropped from the program.

Category.	<p>The student will normally define a dissertation topic in the term preceding the qualifying examination but in no case later than the end of the fifth term in the program.</p> <p>For the "category examination," students will make an oral presentation setting their proposed dissertation topic in comparative perspective.</p>	Dissertation Defense.	When the student's dissertation committee accepts the completed dissertation, the candidate must defend it at a Final Oral Examination.
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## Courses of Instruction

<b>Seminars</b>		Comparative History 320a and b.	Specific sections for individual faculty members as requested.
History 190a. <b>Historiography</b>	<p>A critical analysis of classical historiography.</p> <p>Usually offered in odd years.</p> <p>Mr. Kapelle</p>	<b>Readings</b>	<p>Offered every year.</p> <p>Staff</p>
Comparative History 197b. <b>Seminar in Comparative History: Popular Religion in Modern Europe</b>	<p>Analysis of religious change in modern Europe—the structure and processes of secularization and revivalism, of anticlericalism and feminization.</p> <p>Usually offered every year.</p> <p>Mr. Freeze</p>	Comparative History 400d. <b>Dissertation Research</b>	<p>Specific sections for individual faculty members as requested.</p> <p>Offered every year.</p> <p>Staff</p>
History 198a. <b>Colloquium in the History of American Civilization</b>	<p>Usually offered every year.</p> <p>Mr. Fischer</p>	Comparative History 500. <b>Registration in Time</b>	
History 198b. <b>Colloquium in the History of American Civilization</b>	<p>Usually offered every year.</p> <p>Ms. Jones</p>	In addition the following courses may be taken.	
History 199a. <b>Colloquium in Early Modern European History</b>	<p>An introduction to the major issues and methods in the social history of Europe during the early modern and modern periods.</p> <p>Usually offered every year.</p> <p>Mr. Cohn</p>	History 110a. <b>The Civilization of the Early Middle Ages</b>	<p>Usually offered every year.</p> <p>Mr. Kapelle</p>
Comparative History 199b. <b>Colloquium in Modern European History</b>	<p>Comparative examination of major historical issues in Europe from the 18th through the 20th centuries.</p> <p>Usually offered every year.</p> <p>Mr. Black</p>	History 110b. <b>The Civilization of the High and Late Middle Ages</b>	<p>Usually offered every third year.</p> <p>Mr. Kapelle</p>
Comparative History 300a and b. <b>Research Papers</b>	<p>Specific sections for individual faculty members as requested.</p> <p>Offered every year.</p> <p>Staff</p>	History 112b. <b>The Crusades and the Expansion of Medieval Europe</b>	<p>Usually offered in odd years.</p> <p>Mr. Kapelle</p>
		History 113a. <b>English Medieval History</b>	<p>Usually offered in odd years.</p> <p>Mr. Kapelle</p>
		History 121b. <b>Consequences of the Black Death</b>	<p>Usually offered in odd years.</p> <p>Mr. Cohn</p>
		History 123a. <b>The Renaissance</b>	<p>Usually offered every fourth year.</p> <p>Mr. Cohn</p>

History 123b. <b>Reformation Europe</b>	Usually offered every third year. Mr. Kaplan	History 134a. <b>Nineteenth-Century Europe: From Revolution to National Unification 1789-1870</b>	Usually offered alternate years. Mr. Black
History 124a. <b>The Revolution of the Saints</b>	Usually offered every third year. Mr. Kaplan	History 134b. <b>Nineteenth-Century Europe: Nationalism, Imperialism, Socialism, 1870-1914</b>	Usually offered in even years. Mr. Black
History 125a. <b>Europe in an Age of Crisis, 1550-1700</b>	Usually offered in odd years. Mr. Kaplan	History 137a. <b>Evolution of the International System, 1815-1945</b>	Usually offered in odd years. Staff
History 125b. <b>The Golden Age of Holland</b>	Usually offered every third year. Mr. Kaplan	History 138a. <b>Economy and Society in Europe, 1750-1900</b>	Usually offered in even years. Ms. Kelikian
History 126b. <b>Witchcraft and Magic in Early Modern Europe</b>	Usually offered in odd years. Mr. Kaplan	History 138b. <b>Industrialization and Social Change, 1900 to the Present</b>	Usually offered every year. Ms. Kelikian
History 127a. <b>Women, Sexuality and Family Life in Early Medieval Europe</b>	Usually offered in odd years. Mr. Kaplan	History 139a. <b>Women, Work and Family</b>	Usually offered every year. Ms. Kelikian
History 127b. <b>Early Modern France</b>	Usually offered in odd years. Staff	History 139b. <b>Fascism East and West</b>	Usually offered every third year. Ms. Kelikian
History 128b. <b>Popular Culture in Early Modern Europe</b>	Usually offered in even years. Staff	History 141b. <b>Studies in British History: 1830 to the Present</b>	Usually offered in odd years. Mr. Black
History 130a. <b>The French Revolution</b>	Usually offered in even years. Mr. Black	History 142b. <b>Twentieth-Century Europe</b>	Usually offered every third year. Mr. Wasserstein
History 131a. <b>The Scientific Revolution</b>	Usually offered in even years. Staff	History 144b. <b>Right and Left in Europe from 1900</b>	Usually offered every fourth year. Mr. Jankowski
History 132a. <b>European Thought and Culture: Marlowe to Mill</b>	Usually offered in even years. Mr. Binion	History 145b. <b>Introduction in Modern France</b>	Usually offered every third year. Mr. Jankowski
History 132b. <b>European Thought and Culture Since Darwin</b>	Usually offered every year. Mr. Binion	History 146b. <b>Hitler, Germany and Europe</b>	Usually offered every third year. Mr. Binion
History 133a. <b>The Politics of Enlightenment</b>	Usually offered alternate years. Mr. Hulliung		

History 147a.  
Rise of Imperial  
Russia

Usually offered in odd years.  
Mr. Freeze

History 147b.  
Russia Since 1861

Usually offered in odd years.  
Mr. Freeze

History 149a.  
Topics in Soviet  
History

Usually offered in odd years.  
Mr. Freeze

History 158a.  
Comparative Early  
Modern European  
and  
Anglo-American  
History

Usually offered in even years.  
Mr. Kamil

History 174a.  
U.S. Caribbean  
Relations, 1898 to  
the Present

Usually offered in even years.  
Ms. Arrom

History 175a.  
History of Mexico,  
1700 to the Present

Usually offered in odd years.  
Ms. Arrom

History 183b.  
Social Theory from  
Hegel to Freud  
History 184a.  
Arabs and Jews in  
Palestine, 1856-1948

Usually offered in even years.  
Mr. Hulliung  
Usually offered every third year.  
Mr. Wasserstein

History 186a.  
The Second World  
War

Usually offered every third year.  
Mr. Jankowski

History 191b.  
Psychohistory

Usually offered in odd years.  
Mr. Binion

History 194b.  
Politics and  
Diplomacy in  
Europe, 1914-1945

Usually offered in odd years.  
Staff

## Comparative Literature

See Joint Program of Literary Studies



# Computer Science

## Objectives

The graduate program in computer science is concerned with the fundamental concepts arising in the development and use of computing systems, including the study of computational complexity and information theory, the design and analysis of serial and parallel algorithms, the design of programming languages and systems and artificial intelligence.

A normal program of study in computer science at Brandeis starts with two years of basic graduate course work. At the completion of this course work and a research project, students are eligible for a master's degree. During this initial two-year period, candidates for the degree of Doctor of Philosophy complete the qualifying examination and select a thesis topic and advisor. Dissertation research typically requires two to three additional years.

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of the catalog, apply here. Applicants for admission to the computer science program must submit three letters of recommendation and are also required to take the Graduate Record Examination and are encouraged to take the advanced test in computer science. Funds from research grants and fellowships are available to provide financial support for well-qualified students.

## Faculty

**Professor Jacques Cohen**  
Chair:  
Compiler design.  
Analysis of parallel algorithms. Logic programming. Data structures.

**Professor Ira M. Gessel:**  
Combinatorics.  
Number theory.

**Professor David L. Waltz:**  
Artificial intelligence.  
Natural language processing. Vision.  
Connectionist systems.

**Associate Professor Richard Alterman:**  
Artificial intelligence.  
Natural language processing, memory-based reasoning and common sense planning.

**Adjunct Associate Professor Edward Balkovich:**  
Distributed computing.

**Associate Professor Max Chretien:**  
Computer graphics.  
Computer science education.

**Associate Professor Timothy J. Hickey:**  
Analysis of algorithms. Logic programming and parallel processing. Symbolic manipulation.

**Associate Professor James Pustejovsky:**  
Artificial intelligence.  
Computational linguistics.  
Machine learning.

**Associate Professor James A. Storer:**  
Parallel computation.  
Robotics. Data compression and image processing. Algorithms.

**Assistant Professor Harry G. Mairson:**  
Complexity theory.  
Analysis of algorithms. Lower bounds. Semantics of programming languages.

**Assistant Professor Zhiying G. Mou:**  
Parallelism.  
Programming languages.  
Algorithms.

**Lecturer Martin Cohn:**  
Information theory. Codes.  
Sequences. Data compression.

## Degree Requirements

### Master of Arts

Upon entering the program, each student will be assigned a tentative advisor. By the end of the first year, the student must obtain the consent of a computer science faculty member to serve as his/her permanent research advisor.

A Master's Project showing advanced knowledge of a research area and some original work is required. Normally, the student will have found a permanent advisor by the middle of the second term of study and will begin work on the project during the summer following the first year.

### Residence Requirement

The minimum residence requirement is two years at full-time or the equivalent in part-time study.

### Language Requirement

There is no foreign language requirement.

### Doctor of Philosophy

#### Residence Requirement.

The minimum residence requirement is three years.

#### Language Requirement.

There is no foreign language requirement for the doctoral degree.

#### Advisor.

Upon entering the program, each student is assigned a tentative advisor. By the end of the first year the student should obtain the consent of a computer science faculty member to serve as his/her advisor and dissertation committee chairperson. The advisor then submits for departmental

General Examination.	approval the names of at least two additional Brandeis computer science faculty members and one person from outside the University to serve on the committee.	Research Proposal.	The research proposal consists of a written proposal together with an oral presentation to the computer science faculty that outlines the student's doctoral research and contains a thorough literature review as well as preliminary original work. Typically, the research proposal addresses a topic in the area of the presentation made at the general examination. The research proposal must be completed within one year of the general examination.
	During the first summer and throughout the second year, the student is expected to engage in independent study with his/her advisor. The general examination consists of a presentation to the computer science faculty of a current research area (including a literature review and a discussion of research problems) followed by a question and answer session that addresses both the material presented and the student's general knowledge of his/her course work and fundamental concepts in computer science.	Dissertation and Final Oral Examination.	After completion and tentative approval of the dissertation by the student's committee, a public defense is scheduled. The doctoral degree is awarded only after the successful defense of the dissertation.

## Courses of Instruction

Computer Science 110a. <b>Artificial Intelligence</b>	Addresses A.I principles and state-of-the-art. Topics include knowledge representation, reasoning, learning, natural language understanding and massively parallel models of cognitions.  Usually offered every year.  Mr. Pustejovsky	Computer Science 160a. <b>Parallel Computing and Programming</b>	Provides students with a general background in parallel computation at the levels of architecture, communication, data structures, algorithms, analysis, programming models and programming languages.  Usually offered in odd years.  Mr. Mou
Computer Science 120a. <b>Topics in Computer Systems</b>	Explores existing and proposed computer systems, ranging from operating systems to automatic pilots, airline reservation systems, window systems, spread sheets, data bases, design automation systems and library automation systems.  Usually offered in even years.  Staff	Computer Science 170a. <b>Information Theory and Coding</b>	Information theory as applied to the problems of rewriting digital data to be more concise, more error-resistant or more appropriate to physical environments.  Usually offered in odd years.  Mr. Cohn
Computer Science 140a. <b>Logic Programming</b>	Studies the relationship of Prolog to predicate calculus, horn clauses, unification algorithms, intelligent backtracking, infinite trees, inequalities, implementation issues and concurrent Prolog.  Usually offered every year.  Mr. Hickey	Computer Science 171a. <b>Cryptology: Cryptography and Cryptanalysis</b>	The study of data secrecy, privacy and security. How can information be encoded so that eavesdroppers can neither alter it nor gain any knowledge or advantage?  Usually offered in even years.  Mr. Cohn
Computer Science 150a. <b>Compiler Design</b>	Covered are advanced topics in parser and lexical scanner generation, data flow analysis, code generation and parallel compilation.  Usually offered every year.  Mr. Hickey	Computer Science 180a. <b>Algorithms</b>	Deals with basic concepts in the theory of algorithm design and analysis. These include advanced data structures and algorithms, NP and PSPACE parallel algorithms and specialized topics by the instructor.  Usually offered in odd years.  Mr. Storer

Computer Science 190a. <b>Theory of Computation</b>	An introduction to the semantics of programming languages. Topics include elementary lambda calculus and combinatory logic; denotational semantics; continuous functions and their relation to models of computation and polymorphism, type inference and logic.  Usually offered in even years.  Mr. Mairson	Computer Science 240a. <b>Semantics of Programming Languages</b>	Mathematical description of basic concepts of programming languages. Modeling using the lambda-calculus. Derivation of compilers from formal descriptions of languages.  Usually offered in even years.  Mr. Mairson
Computer Science 200a and b. <b>Readings</b>	Specific sections for individual faculty members as requested.  Staff	Computer Science 285a. <b>Advanced Topics in Algorithms and Computational Complexity</b>	Content of course varies from year to year.  Usually offered in even years.  Staff
Computer Science 215a. <b>Advanced Topics in Artificial Intelligence</b>	Topics vary from year to year. The course may be repeated with the approval of the instructor.  Usually offered every year.  Mr. Pustejovsky	Computer Science 300a and b. <b>Master's Project</b>	Offered every year.  Staff
Computer Science 215b. <b>Advanced Topics in Artificial Intelligence</b>	See COSI 215a for description.  Usually offered every year.  Mr. Alterman	Computer Science 310b. <b>Seminar in Artificial Intelligence</b>	Usually offered in even years.  Staff
Computer Science 218a. <b>Psychology Seminar in Cognitive Science</b>	See PSYC 208a for description.  Usually offered every year.  Staff	Computer Science 340a. <b>Seminar in Programming Languages</b>	Usually offered in even years.  Staff
Computer Science 230a. <b>Parallel Algorithms and VLSI design</b>	Theoretical issues in the design of parallel algorithm and the layout of VLSI circuits. Topics include fundamentals of how VLSI circuits work (students design a small nMOS or cMOS chip), VLSI layout, time/area tradeoffs, systolic arrays, general purpose models of parallel computation (butterfly, hypercube, fat trees, etc.), "silicon compilation", wafer-scale circuits, 3-dimensional circuits and optical circuits.  Usually offered in even years.  Mr. Storer	Computer Science 390a <b>Seminar in Theory of Computation</b>	Usually offered in even years.  Staff
		Computer Science 400d. <b>Dissertation Research</b>	Specific sections for individual faculty members as requested.  Staff

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## Cross-Registration at Boston College, Boston University, Tufts University and the Graduate Consortium in Women's Studies at Radcliffe College

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A full-time graduate student at Brandeis University may enroll in one graduate course each term at Boston College, Boston University, Tufts University or the Graduate Consortium in Women's Studies at Radcliffe College. Brochures suggesting courses for cross-registration at each of the host institutions are available at the graduate school office of each institution.

A student at Brandeis University who wishes to enroll in a graduate course at one of the host institutions should obtain a registration permit from the Office of the University Registrar and should present this permit to the Office of the University Registrar of the host institution.

A student who wishes to enroll in a course at one of these institutions should consult with the instructor in the particular course and should expect to satisfy the prerequisites and requirements normally required for admission to the course, including adherence to the academic calendar of that course.

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## Economics

See International Economics and Finance

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## English and American Literature

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### Objectives

The graduate program in English and American literature is designed to offer training in the interpretation and evaluation of literary texts with some attention to related scholarly disciplines.

### Admission

Candidates for admission should have a bachelor's degree, preferably with a major in English and American literature, and a reading knowledge of French, Italian, German, Greek or Latin. They are required to submit a sample of their critical writing not to exceed 35 pages; the 35-page maximum may consist of a single critical essay or two shorter essays of approximately equal length. Students are also required to submit scores on the Graduate Record Examination Verbal Aptitude test. The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

(1) Students who complete, with distinction, the M.A. requirements at Brandeis University are admitted to the Ph.D. program upon recommendation of the Committee on Graduate Studies.

(2) Students who enter with a master's degree or a full year of graduate work in English from another university are required to fulfill the qualifying examination requirement described below under the Master of Arts Program. Provided this requirement is fulfilled, such students may, at the program's discretion, be admitted to the Ph.D. program after successful completion of a year at Brandeis and upon recommendation by the Committee on Graduate Studies. At the time of admission, up to a year's residence and course credit for work completed elsewhere may be granted.

## Faculty

Associate Professor  
**Gary Taylor**  
Chair:  
Renaissance  
literature.

Professor  
**Michael T. Gilmore:**  
Puritanism.  
Literature of the  
American  
Revolution.  
American  
Renaissance.

Professor  
**Eugene Goodheart:**  
Nineteenth- and  
twentieth-century  
literature and  
thought. Literary  
theory.

Professor  
**Susan Staves:**  
Restoration and  
eighteenth century.

Visiting Fannie  
Hurst Professor  
**Stephen McCauley:**  
Fiction.

Visiting Fannie  
Hurst Professor  
**Thyllas Moss:**  
Poetry.

Associate Professor  
**John Burt:**  
American  
literature.  
Romanticism.  
Composition.  
Philosophy of  
education.

Associate Professor  
**Wai-chee Dimock:**  
Nineteenth-century  
American  
literature.

Associate Professor  
**William Flesch:**  
Renaissance.  
Romanticism.  
Theory.

Associate Professor  
**Anne Janowitz:**  
Romantic and  
modern poetry.  
Film. Cultural  
studies.

Associate Professor  
**Karen W. Klein:**  
Medieval  
literature.  
Women's studies.

Associate Professor  
**Alan Levitan:**  
Shakespeare.  
Renaissance poetry  
and drama. Music  
and poetry.  
Classical oriental  
drama.

Associate Professor  
**Paul Morrison**  
Director of  
Graduate Studies:  
Renaissance,  
Romantic and  
modern poetry.  
Literary theory.

Associate Professor  
**Richard J. Onorato:**  
Modern literature.  
Film.

Assistant Professor  
**Mary Campbell:**  
Medieval  
literature. Poetry.  
Renaissance  
literature.

Assistant Professor  
**Jennifer Otsuki:**  
Nineteenth-century  
literature.

Poet-in-Residence  
**Olga Broumas:**  
Poetry.

Writer-in-Residence  
**Geoffrey Wolff:**  
Fiction.

## Degree Requirements

Following are the degree requirements for the program of English and American Literature. Students should also consult the General Degree Requirements and Academic Regulations found in an earlier section of this catalog.

### Master of Arts

#### Program of Study.

First-year students are normally expected to take 100-level courses and graduate seminars in the English program, not independent study courses. Each student will take English 200a; in addition, a normal program will consist of five courses, at least three of which will be 200-level seminars. Students must also register for English 295b (Major Text Examination).

#### Residence Requirement.

The minimum residence requirement is one year, though students with inadequate preparation may require more.

#### Language Requirement.

A reading knowledge of a major foreign language (normally modern European or classical Greek or Latin) must be demonstrated by passing a written translation examination. The completion of the language requirement at another university does not exempt the student from the Brandeis requirement.

#### Qualifying Examination.

An oral examination will be given by committees of faculty members at the beginning of the spring term on one of several major texts, the texts to be announced at the end of the fall term. This examination will test a student's ability to read and understand a major literary work or a group of short works by the same author. Admission to the Ph.D. program, in addition to qualification for the M.A. degree, will depend upon the results of this examination and upon the student's performance in courses.

### Doctor of Philosophy

#### Program of Study.

Second-year students continue to take courses, usually two each term. Students have an obligation to review their preparation in the field with their advisors and to ensure that they are acquiring both a comprehensive knowledge of the various historical periods and genres of English and American literature and a deeper knowledge of the particular period or field they propose to offer as a specialty. With the exception of ENG 200, no specific courses are required of all Brandeis Ph.D. candidates; each student's program will be designed in light of the strengths and weaknesses of his or her previous preparation and in accord with his or her own interests.

A student who comes to Brandeis with a B.A. is required to take 12 courses for the Ph.D.; a student who comes with an M.A. is normally required to take eight courses at Brandeis.

#### Residence Requirement.

The minimum residence requirement is two years beyond the master's degree or three years beyond the bachelor's.

#### Language Requirement.

In addition to the language requirement that has been met for admission to the Ph.D. program, the student must (1) demonstrate a reading knowledge of a second major foreign language; or (2) demonstrate an advanced competence in the first foreign language and a knowledge of its literature; or (3) take a graduate course, ordinarily a seminar, in a field closely related to research on the dissertation. Approval of the graduate committee must be sought before such a course is taken; the student must demonstrate the relevance of the proposed course to the dissertation.

Training in Teaching.	Provided openings exist, students in their second, third and fourth year in the program can expect to be given at least one teaching assistantship each year, if their academic work is of high caliber.	Dissertation Field Examination.	All candidates for the Ph.D. will be asked to pass an oral examination in the historical period or genre in which the candidate expects to write a dissertation. This examination is taken in the third year. The examination may be taken as many times as necessary without prejudice to a student's standing in the Ph.D. program.
Dissertation and Defense.	Each student will submit a dissertation in a form approved by his/her dissertation director and by a committee appointed by the director of graduate studies. The student will defend the dissertation at a Final Oral Examination. The dissertation may be a monograph, a series of closely related essays, a bibliographical project or a textual project.		

## Courses of Instruction

English 106a. <b>Early American Best-sellers</b>	A study of some of the most popular American books written before the Civil War. Topics include the changing preferences of the reading public, the relation between popular and "elite" taste and the cultural function of the best-seller.  Usually offered in odd years.  Mr. Gilmore	English 115b. <b>Women, Realism and Melodrama</b>	Focuses on two frequently opposed traditions in 19th-century British literature—realism and melodrama—and at the tensions between them embodied in novels, plays and paintings of the period. Looks at the linked figures of the actress and heroine as they represent the two traditions.  Usually offered every third year.  Last offered Spring 1990.  Staff
English 110a. <b>Film Narrative I: A Survey of Early Film Classics 1915-1950s</b>	The primary objective is film literacy, not just film history—an understanding and critical appreciation of film as a major modern form of narrative. To that end, film is studied in its evolving technical complexity as a wholly modern kind of text.  Usually offered in even years.  Mr. Onorato	English 116b. (AAAS 113b.) <b>Eighteenth- and Nineteenth-Century Afro-American Literature</b>	Addresses the history of Afro-American literature from its mid-18th-century beginnings through the post-Civil War Reconstruction of the late 19th century. Examines transcriptions of oral folk productions, slave narratives, autobiography, essays, poetry and prose fiction.  Usually offered in odd years.  Staff
English 110b. <b>Film Narrative II: Contemporary Film 1950s-1980s</b>	Requires competence in basic matters of film technique and assumes adequate knowledge of earlier film. The films for study are drawn from the contemporary period—from the late 1950s to the present. Special attention given to the cultural and political significance of the film medium.  Usually offered in even years.  Mr. Onorato	English 118b. (COML 107b) <b>European Modernism: The Age of Irony</b>	See COML 107b for course description.  Usually offered in odd years.  Mr. Engelberg
English 115a. <b>Totalization and the Other: Images of Race and Gender in the Victorian Novel</b>	Examines how ideological control of the novel is played out as the struggle between normative and transgressive images of the community. Authors include Thackeray, Collins, Forster, Gaskell, Oliphant and Trollope.  Usually offered every third year.  Will be offered Fall 1992.  Ms. Otsuki	English 120a. <b>Prose Fiction and Film Fiction</b>	The narrative techniques of prose fiction and conventions of drama are briefly reviewed to see how they gave rise to and continuously inform the fiction film. To see how point of view, characterization, narrative continuity and other elements of cinematic style are created through film technique, several kinds of films are close-viewed and studied.  Usually offered in odd years.  Mr. Onorato

<b>English 120b. Shakespeare Off-shoots</b>	<p>The cultural and ideological transformations and adaptations of Shakespearean material from the late 17th century to the present.</p> <p>Usually offered every fourth year.</p> <p>Last offered Spring 1991.</p> <p>Mr. Levitan</p>	<b>English 125a. Romanticism I: Blake, Wordsworth and Coleridge</b>	<p><i>This course may not be repeated for credit by students who have taken ENG 135b in previous years.</i></p> <p>Readings of the major poetry and some prose by the first generation of English Romantic poets. The purpose is both to define the common ground of the Romantics' poetic, philosophical and political goals and determine the singularity of each writer's achievement.</p> <p>Usually offered in even years.</p> <p>Staff</p>
<b>English 121b. Contemporary Literary Theory</b>	<p>A broad consideration of recent issues and trends in literary theory, primarily formalist, structuralist, psychoanalytic, poststructuralist, feminist and Marxist. Recommended preparation: a course in the history of criticism.</p> <p>Usually offered in odd years.</p> <p>Mr. Morrison</p>	<b>English 125b. Romanticism II: Byron, Shelley and Keats</b>	<p><i>This course may not be repeated for credit by students who have taken ENG 135b in previous years. ENG 125a, Romanticism I, is not a prerequisite for this course.</i></p> <p>The "younger generation" of Romantic poets, Byron, Shelley and Keats, both continue and react against the poetic, political and philosophical preoccupations and positions of their immediate elders. Readings of their major works, as well as Mary Shelley's <i>Frankenstein</i>.</p> <p>Usually offered in even years.</p> <p>Staff</p>
<b>English 122a. The Medieval World: Britain Before the Conquest</b>	<p>An introduction to the language and literature of the Anglo-Saxons. Attention given to modes of oral narration, with cross-cultural examples. Readings may include selections from Bede, <i>The Chronicle</i>, charms, riddles, the major extant short poems and the epic poem <i>Beowulf</i>.</p> <p>Usually offered every year.</p> <p>Ms. Klein</p>		
<b>English 122b. The Medieval World: England from the Conquest to the Renaissance</b>	<p>A cultural study of this period with particular attention to the idealized fantasies, centering on the figure of Arthur, of the aristocratic class; the yoking of literary energies to intense religiosity and the emergence of a literature reflective of wider urban and social realities.</p> <p>Usually offered every fourth year.</p> <p>Last offered Spring 1988.</p> <p>Ms. Klein</p>	<b>English 126a. American Realism and Naturalism 1865-1900</b>	<p>Explores how some of the central American realists and naturalists set about representing and analyzing American social and political life. Topics include the changing status of individuals, classes and genders, among others.</p> <p>Usually offered every third year.</p> <p>Last offered Fall 1991.</p> <p>Mr. Burt</p>
<b>English 124a. Reason and Ridicule: The Literature of Britain in the Enlightenment</b>	<p>Writer's concern with "criticism" broadly understood, including literary criticism in Johnson and Sheridan, skeptical historiography in Gibbon and Hume and political criticism in Paine and Wollstonecraft. Debates on the effectiveness and propriety of wit in reasoned argument and political debate.</p> <p>Usually offered every third year.</p> <p>Will be offered Spring 1993.</p> <p>Ms. Staves</p>	<b>English 127a. Joyce and Lawrence</b>	<p>A study of the major works of the two great antithetical novelists of the modern period.</p> <p>Usually offered every year.</p> <p>Last offered Spring 1992 as ENG 107b.</p> <p>Mr. Goodheart</p>
		<b>English 127b. Contemporary Fiction and the "Post-Modernist" Novel</b>	<p>Against the background of the "modernism" of the earlier 20th century, this course considers aspects of contemporary fiction, such as the assimilation of earlier experimental techniques, the further liberalization of subject matter and attempts at continuing avant-gardism in what is called the "postmodernist" novel.</p> <p>Usually offered every year.</p> <p>Mr. Onorato</p>

English 131b. <b>Writing in the "Wild Zone": Charting Feminist Literary Theory</b>	Looks at the contributions of various theories to the feminist project and examines, in turn, what feminism can suggest to Marxists, Freudians, deconstructionists and others.	English 137a. <b>Yeats, Rilke and Freud</b>	<i>This course may be taken for credit by students who have taken ENG 137a in previous years.</i>
	Usually offered in even years.		An intensive reading of two modern poets in light of the Freudian description of mind. Attends with particular care to Freud's theory of dreams and its relationship to the use and value of dreams in the practice of poets.
	Staff		Usually offered every fourth year.
English 132b. <b>Chaucer I</b>	<i>May not be repeated for credit by students who have successfully completed ENG 122b Spring 1988.</i>		Last offered Spring 1991.
	In addition to reading Chaucer's major works, special attention is paid to situating them in relation to linguistic, literary and social developments of the later Middle Ages. No previous knowledge of Middle English required.		Staff
	Usually offered every fourth year.	English 137b. <b>Studies in Modernism</b>	An attempt to explore the concept of "modernism" through an intensive reading of seminal poems, novels and plays. Focuses on the formal innovations of modernism and their relation to various ideological and political issues.
	Last offered Spring 1991.		Usually offered in even years.
	Ms. Campbell		Mr. Morrison
English 134a. <b>The Women of Letters, 1600-1800</b>	Women writers from Hehn to Austen; novels, plays, pamphlets, diaries and letters. The culture's attitudes to women writers; women's attitudes to literary achievement and fame, women's resistance to stereotypes and women's complicity in the promulgation of images of the "good woman."	English 142b. <b>Chaucer II: "Love" and the Early Chaucer</b>	Readings of Chaucer's dream poems, as well as his "verse novel," <i>Troilus and Criseyde</i> . Particular attention paid to Chaucer's innovative uses of love as both a topic and formal structuring device for the analysis of social conflict. No previous knowledge of Middle English required.
	Usually offered every third year.		Usually offered in odd years.
	Will be offered Fall 1992.		Ms. Campbell
	Ms. Staves	English 143a. <b>Elizabethan and Jacobean Drama</b>	A study of the revenge tradition in the work of Shakespeare and his contemporaries. The problem of blood revenge is looked at as an historical phenomenon in Renaissance society and as a social threat transformed into art in such dramatists as Shakespeare, Marlowe, Kyd, Marston, Tourneur, Chapman and Webster.
English 135a. <b>Nineteenth- Century Poetry</b>	Explores the variety of forms, themes and structures in 19th-century British poetry. Looks at poems considered to be Romantic, Victorian and Symbolist, as well as the poetry of social intervention, nationalist poetry and domestic poetry.		Usually offered every year.
	Usually offered in even years.		Mr. Levitan
	Staff	English 143b. <b>Poetry and Music</b>	Examines the changing relationships of English music to English words from the 12th century to the present, with special concentration on Renaissance and 20th-century texts. Early texts are studied in modern settings, as well as in settings contemporaneous with them. Some genres covered are the carol, the air, the madrigal, the oratorio, opera and 20th-century art-song.
English 135b. <b>Romanticism</b>	Major texts by Blake, Wordsworth, Coleridge, Keats, Shelley and Byron, among others. The purpose is both to define the common ground of the Romantics' poetic, political and philosophic goals and determine the singularity of each writer's achievement.		Usually offered every fourth year.
	Usually offered in even years.		Will be offered Fall 1992.
	Staff		Mr. Levitan



English 145a. <b>British Colonialism</b>	Examines the specular relationship between the British colonies and the colonizing society and how the attempt to see and represent the colonial Other is deflected into modes of self-definition.  Usually offered every third year.  Will be offered Spring 1993.  Ms. Otsuki	English 157a. <b>The Post-Modern Generation: Contemporary Poetry</b>	An introduction to recent poetry in English, dealing with a wide range of poets as well as striking and significant departures from the poetry of the past. Looks, where possible, at individual volumes by representative authors.  Usually offered every year.  Staff
English 147a. <b>Six Twentieth-Century Poets</b>	Six poets are studied: J.V. Cunningham, Elizabeth Bishop, Louise Bogan, Thom Gunn, Philip Larkin and Seamus Heaney.  Usually offered in odd years.  Staff	English 163a. <b>Renaissance Poetry</b>	Concerned primarily with the kind of lyric first written by Wyatt and evolved and extended by Sidney, Spenser and Shakespeare (particularly the sonnets) and with its sometimes surprising variations in the work of 17th-century poets.  Usually offered in even years.  Mr. Levitan
English 147b. <b>Modern British and American Drama</b>	Emphasis is on the American realistic tradition—including O'Neill, Williams, Albee, Miller and Shepard—but comparisons are made to Pinter, Stoppard and other contemporary British dramatists.  Usually offered every fourth year.  Last offered Spring 1989.  Staff	English 164b. (THA 165b) <b>Restoration and Eighteenth-Century Drama</b>	Comedy, heroic drama and tragedy between 1660 and 1800, including Dryden, Wycherly, Goldsmith and Sheridan. Attention to the history of the plays in performance.  Usually offered in odd years.  Ms. Staves
English 152b. <b>Arthurian Literature</b>	A survey of (mostly) medieval treatments of the legendary material associated with the British king Arthur and his court, in several genres: bardic poetry, history, romance and prose narrative.  Usually offered in odd years.  Ms. Campbell	English 167a. <b>Fiction and the Anti-hero</b>	Deals with the representation in 20th-century fiction, mainly American, of what has been called the anti-hero, a protagonist figure with limited or thwarted hopes and ambitions who often acts out or reacts against the role of social victim.  Usually offered every third year.  Last offered Fall 1990.  Staff
English 153a. <b>Poetry, Philosophy and Politics in the Seventeenth Century</b>	An attempt to chart and correlate the changes in the way people in England reflected upon what it meant to be human and what it meant to be English and how these changes were mirrored in the literature, politics and philosophical writings of the time.  Usually offered in even years.  Mr. Taylor	English 171a. (Formerly ENG 71a.) <b>History of Literary Criticism</b>	Explores major documents in the history of criticism from Plato to the present. Texts are read as both representative moments in the history of criticism and as documents of self-sufficient literary and intellectual interest.  Usually offered every third year.  Last offered Spring 1988.  Mr. Morrison
English 155a. <b>Jane Austen, Charlotte Brontë and George Eliot</b>	<i>This course may be taken for credit by students who have taken ENG 155a in previous years.</i>  Provides an opportunity for intensive study of novels by these three major writers and deals with some biographical and critical material.  Usually offered in odd years.  Staff	English 173a. <b>Spenser and Milton</b>	Poetic authority: the poetry of authority and the authority of poetry. Spenser and Milton are treated individually, but the era they bound is examined in terms of the tensions within and between their works.  Usually offered in even years.  Mr. Flesch

English 174b. <b>Eighteenth-Century Novel</b>	The early development in England, with particular attention to contemporary theories of the novel and the relationship between the literary genre and the social history of class. Authors include Smollett, Richardson, Fielding, Sterne and Burney.  Usually offered every year.  Ms. Staves	English 187a. <b>The "Modernist" Novel in English</b>	The major novelists of the early 20th century, stressing their experiments with narrative technique, subject matter and prose that resulted in the distinctly 20th-century sense of the modern in fiction known generally as "modernism."  Usually offered in odd years.  Mr. Onorato
English 175a. (COML 174a.) <b>Sex, Class and Literature in Europe: 1830-1914</b>	See COML 174a for course description.  Usually offered in odd years.  Ms. Harth	English 187b. <b>Twentieth-Century Women Poets</b>	Considers the work of women writing poetry in English, both inside of and in opposition to the tradition of modernism. Examines in historical context the poetry of women of color and of socialist feminists.  Usually offered every third year.  Staff
English 176b. <b>Hawthorne, Melville and Poe</b>	Readings include <i>Moby Dick</i> , <i>The Narrative of Arthur Gordon Pym</i> , <i>The Scarlet Letter</i> and <i>The Marble Faun</i> , as well as short novels by all three authors.  Usually offered every fourth year.  Last offered Spring 1992.  Mr. Burt	English 197b. <b>The Political Novel in the Twentieth Century</b>	Defining politics as strategies of power, this course looks at these strategies in sexual, racial, economic and ideological terms as they are represented in primarily British and American novels of the 20th century. Focuses on literary responses to various political and economic systems and the literary depictions of the body in public and institutional spaces.  Usually offered every year.  Ms. Klein
English 177a. <b>American Gothic and American Romance</b>	<i>This course may not be repeated for credit by students who have taken ENG 176a in previous years.</i>  Examines Gothic fiction as a method of exploring the capacities of the imagination, disclosing its power and meeting its threat. Beginning with the 19th-century founders of the genre in America, the second half of the course deals with some 20th-century masters.  Usually offered in even years.  Mr. Burt	<b>Seminars</b>	
English 178a. (COML 164a.) <b>Family Portraits: The Orphaned Self</b>	See COML 164a for description.  Usually offered in odd years.  Mr. Engelberg	English 200a. <b>Methods of Literary Study</b>	A partial introduction to what professional critics do with texts. Sample texts are taken from the second most important dramatist in English, Thomas Middleton. Using Middleton as a target and ammunition, we argue about the construction of texts, authors, canons, characters, narratives, genders, genres, classes, states, souls and other fictions. <b>Required of all first-year students.</b>  Usually offered every year.  Mr. Taylor
English 180a. <b>The Modern American Short Story</b>	Close study of American short fiction masterworks. Read as writers write, discussing solutions to narrative obstacles and examining the consequences of alternate points of view. Study words and syntax to understand and articulate how technical decisions have moral and emotional weight.  Usually offered every year.  Mr. Wolff	English 215a. <b>Totalization and the Other: Images of Race and Gender in Victorian Fiction</b>	Examines typical rhetorical strategies employed by Victorian writers to achieve an inclusive, totalizing social vision, and how these strategies are problematized by the period's equally relentless need to represent images of the colonial and gendered Other.  Usually offered every third year.  Ms. Otsuki
English 185a. (COML 185a.) <b>Dickens and Dostoevsky</b>	See COML 185a for course description.  Usually offered in even years.  Ms. Miller		

<b>English 220a. Prose Fiction, Film Fiction, Film Criticism</b>	<p>Assuming a broad knowledge of the narrative techniques of prose fiction, we consider the development of film technique for creating the narratives of film fiction. A variety of films are studied including adaptations, films that make a free use or transformation of an earlier text and films that were written directly for the screen. Relevant criticism and theory are read.</p> <p>Usually offered every third year.</p> <p>Mr. Onorato</p>	<p><b>English 232b. Chaucer</b></p> <p>A survey of the historically pivotal literary career of Chaucer, with emphasis on <i>The Canterbury Tales</i>. Chaucer's works as social analysis and critique, from the point of view of a bourgeois outsider in an aristocratic milieu; Chaucer's medieval genres and their transformation into vehicles of early modern sensibility; medieval relations of secular literature to its audience(s); orality, literacy and the book.</p> <p>Usually offered every third year.</p> <p>Ms. Campbell</p>
<b>English 222b. The "Modernist" Novel: Virginia Woolf</b>	<p>This seminar undertakes a close study of Virginia Woolf in an attempt to see her in the literary context of modernism and the literary/political context of feminism. The works of fiction are emphasized but are read in the personal context of her other prose writings and criticism, her journals and letters.</p> <p>Usually offered every third year.</p> <p>Mr. Onorato</p>	<p><b>English 233a. Shakespeare</b></p> <p>An intensive reading of Shakespearean tragedy from a theoretical and historical viewpoint.</p> <p>Usually offered every third year.</p> <p>Mr. Flesch</p>
<b>English 226a. Gender and the Public Sphere</b>	<p>Explores the concepts of "separate spheres," sexual division of labor and the spatial entitlements in the 19th century, with a focus on texts by Hawthorne, James, Stowe and Fuller and with supplementary readings in Jurgen Habermas, Mary Ryan and Carroll Smith-Rosenberg.</p> <p>Usually offered every third year.</p> <p>Ms. Dimock</p>	<p><b>English 235b. Blake and Wordsworth</b></p> <p>An investigation of Romantic poetry in its relationship to contemporary political, social and poetic events. Wordsworth's experience in the 1790s produced the materials for much of his retrospective poetry, and Blake's prophetic work is born out of the struggles of the period. We formulate general propositions about the relationship between poetry and history as we take Wordsworth and Blake as both idiosyncratic and exemplary historical poets.</p> <p>Usually offered every third year.</p> <p>Ms. Janowitz</p>
<b>English 227a. Studies in Modernism</b>	<p>An exploration of the concept of the modern through an intensive reading of <i>The Waste Land</i>, <i>Ulysses</i>, <i>Between the Acts</i> and <i>Endgame</i>.</p> <p>Usually offered every third year.</p> <p>Mr. Morrison</p>	<p><b>English 237a. Theories of the Novel</b></p> <p>A study of major statements of the theory of the novel, including selections from the works of Aristotle, James, Lubbock, Auerbach, Watt, Booth, Barthes, Genette, Lukacs, Bakhtin and recent feminist theory. We also read works of fiction from the theoretical perspectives developed in the course.</p> <p>Usually offered every third year.</p> <p>Mr. Goodheart</p>
<b>English 230a. Canons and Aesthetic Ideology</b>	<p>The debates, theoretical and practical, historical and contemporary, on canonicity and taste. How and what is the canon? What is a canon? Is the canon oppressive? Would every canon be? Are there any criteria for literary evaluation? Readings include Dryden, Burke, Hume, Kant, Kierkegaard, Woolf, Smith, Harpham, Sedgwick, Guillory, Nussbaum, Bourdieu, Gates, Foucault, Ronald Dworkin, Fish, both Blooms, Rorty and William James.</p> <p>Usually offered every third year.</p> <p>Mr. Flesch</p>	<p><b>English 237b. Some American Poetry</b></p> <p>Poetry of Whitman, Dickinson, Frost, Eliot, Stevens, Bishop and others.</p> <p>Usually offered every year.</p> <p>Mr. Burt</p>
		<p><b>English 240a. Sex and Culture</b></p> <p>Studies in the cultural construction and representation of the self and its sexuality; we focus primarily on the various technologies of self-knowledge and self-fashioning [literary and otherwise] in the modern West.</p> <p>Usually offered every third year.</p> <p>Mr. Morrison</p>

English 240b. <b>The Ethics of Representation in Nineteenth- and Twentieth-Century Fiction</b>	<p>Examining exemplary works of 19th- and 20th-century fiction, we study the ways in which narrative construction (plotting, rhetoric, narrative voice, ideological motivation) represent personal and social reality. We raise questions about the relationship between the real and the ethical, between what is and what ought to be and how our own ethical concerns complicate our understanding of the novels we read.</p> <p>Usually offered every third year.</p> <p>Mr. Goodheart</p>	English 246a. <b>American Romantic Fiction: Precursors and Classics</b>	<p>Examines the origins and flowering of Romanticism in the American novel. Authors to be considered include: Charles Brockden Brown, Washington Irving, James Fenimore Cooper, Nathaniel Hawthorne and Herman Melville.</p> <p>Usually offered every third year.</p> <p>Mr. Gilmore</p>
English 242a. <b>Early Modern Literatures of Information and Empire</b>	<p>Reading in (primarily) English genres of the period of discovery and colonial exploration: "births" of Utopia, anthropology, science fiction and the novel; relations of science to prose fiction and sensational genres. Collaterally an overview of the methods and assumptions of intellectual history in its "new historicist" and "cultural materialist" avatars. Columbus, More, Spenser, Montaigne, Shakespeare, Bacon, Godwin, Cyrano de Bergerac, Browne, Fontanelle, Cavendish, Behn, Dampier, Purchas, Defoe, Swift, Lafitau and Linnaeus.</p> <p>Usually offered every third year.</p> <p>Ms. Campbell</p>	English 250a. <b>Representations of Eighteenth-Century Marriage: Literary Texts, Historical Documents</b>	<p>Explores a variety of 18th-century representations of marriage, each of which has been thought to make some claim to being a "realistic" representation. Sources include legal documents, medical treatises, paintings, periodical accounts, conduct books, drama and novels. We concern ourselves with the apparent social function of each text and with ideology of marriage it promotes.</p> <p>Usually offered in even years.</p> <p>Ms. Staves</p>
English 243b. <b>Sonnets and Lyrics: Tudor and Elizabethan</b>	<p>Studies the short poem between 1520 and 1600, in both the native tradition and the tradition of Italian influence. The major figures to be read include John Skelton, Wyatt, Surrey, Sidney, Spenser, Shakespeare, Campion, the writers of airs and madrigals, Johnson and the early Donne. Among the motifs to be examined are the development of the sonnet, the use of <i>persona</i>, Renaissance musical realization of lyric texts (Dowland, Campion, the madrigalists), the individualization of diction and metaphor and the satiric voice.</p> <p>Usually offered every third year.</p> <p>Mr. Levitan</p>	English 250b. <b>Historical and Theoretical Introduction to Modern English Versification</b>	<p>The history of English versification from Wyatt on is the history of the theory of versification. This course studies both, asking what rhyme and meter are, and what their connection to poetic meaning is. We consider the answers given by poets from Wyatt through Ashbery and Merrill and theorists from Spenser and Milton through Freud, Empson and Easthope.</p> <p>Usually offered in even years.</p> <p>Mr. Flesch</p>
English 245a. <b>Cultural Materialism and British Romanticism</b>	<p>Combines theoretical and critical practices by investigating Romantic poetic texts in the light of recent movements in historical and materialistic thought. We begin by reading in the tradition of Western Marxism and then looking at its heirs and opponents in the work of those New Historicists and Cultural Materialists who have addressed Romantic poets.</p> <p>Usually offered every third year.</p> <p>Ms. Janowitz</p>	English 260a. <b>The Language of the Other: The Theory and Practice of Allegory</b>	<p>A seminar on the theory and practice of allegorical literature; we focus primarily on Spenser's <i>Faerie Queene</i>, although we read broadly in allegorical and quasi-allegorical literature (the Bible, allegorical rewritings or reinterpretations of Virgil and Ovid, Dante, Chaucer, Romantic poetry, 19th-century romance and Kafka).</p> <p>Usually offered every third year.</p> <p>Mr. Morrison</p>
English 245b. <b>Feminist Theory and Victorian Literature</b>	<p>Usually offered in even years.</p> <p>Staff</p>	English 264a. <b>Pope, Montagu and Fielding</b>	<p>A study of three major 18th-century comic writers with an emphasis on exploring some common ground among them including their complex uses of irony and sentiment, and considering their generic experiments. Among the issues to be considered are the writers' highly self-conscious relation to new developments in the early modern book trade.</p> <p>Usually offered every third year.</p> <p>Ms. Staves</p>

English 266b. Class in American Literature	<p>Does class have a place in discussion of American literature? Class emerges as a category in English novels of the 19th century, but its significance in American fiction seems far more problematic. Do American writers uncritically endorse the national ideals of social mobility and classlessness? Do issues of gender and race mask concern for class? Readings include stories and novels by Poe, Hawthorne, Melville, Stowe and others.</p> <p>Usually offered every third year.</p> <p>Mr. Gilmore</p>	English 352a and b. Directed Research	<p>Specific sections for individual faculty members as requested.</p> <p>Staff</p>
English 295b. Studies in a Major Text	<p>Required of all first-year students.</p> <p>Offered every year.</p> <p>Mr. Levitan</p>	English 402d. Dissertation Research	<p>Specific sections for individual faculty members as requested.</p> <p>Staff</p>
English 299b. Pedagogy	<p>Modern theories of pedagogy and composition with practical experience. Students are apprenticed to current instructors.</p> <p>Usually offered every year.</p> <p>Mr. Burt</p>		

## French

See Joint Program of Literary Studies

# Genetic Counseling

## Objectives

The Master's Degree Program in Genetic Counseling is a two-year course of study integrating coursework with clinical experience in an environment that encourages close student/faculty interaction. The program places a strong emphasis on human molecular genetics and provides the student with necessary counseling skills and clinical experience. Graduates of the program are expected to have: a clear understanding of human and medical genetics, recombinant DNA technology, gene mapping and developmental biology; a familiarity with many genetic diseases and birth defects and the various techniques used to detect and/or treat them; an understanding of how genetic counselors function in a variety of work settings and their roles and responsibilities within a medical team; the ability to present relevant genetic information to individuals and families from diverse cultural backgrounds in an informed, compassionate manner and to help families obtain the medical and social services they may need; a sensitivity to the needs and options of children and adults (including parents and potential parents) with mental retardation, developmental disabilities and other genetic disorders; an awareness of the legal, ethical and public policy issues raised as a result of new DNA and reproductive technologies and the Human Genome Project; and an understanding of research methodology, experience in the design and execution of research projects and a familiarity with the relevant scientific literature.

## Admission

The program, by following the guidelines recommended by the National Society of Genetic Counselors, prepares graduates for the American Board of Medical Genetics certification examination in genetic counseling and employment as genetic counselors.

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. The specific requirements for admission to this program are: one year of general chemistry, one year of biology and one semester each of genetics (Mendelian and molecular), organic chemistry, biochemistry, psychology and statistics. Applicants lacking one or more of these courses are invited to consult the program's director on how to fulfill these requirements. Volunteer or work experience in an area related to counseling, developmental disabilities or genetics is recommended.

Applications should include three letters of reference, the results of the Graduate Record Examination and a personal statement describing your interest in the field of genetic counseling. After initial review of applications, potential candidates will be invited to Brandeis for a personal interview.

Partial scholarship assistance is available for a limited number of exceptional applicants.

## Faculty Advisory Committee

In addition to members of the biology department, faculty from several other departments and from The Heller Graduate School, with expertise in legal studies, health policy, ethics, developmental disabilities and medical sociology participate in this program.

Professor  
**James Haber**  
(Biology)

Professor  
**Attila O. Klein**  
(Biology)

Professor  
**Irving Zola**  
(Sociology)

Adjunct Professor  
**Marvin Natowicz**  
(Biology)

Adjunct Professor  
**Lyman Stookey**  
(Legal Studies)

Adjunct Assistant Professor  
**Annette Lovelace Kennedy**  
(Biology)

Associate Professor  
**Marty Wyngaarden Krauss**  
(The Heller School)

Adjunct Associate Professor  
**Judith Tsipis**  
(Biology)

Adjunct Associate Professor  
**Lawrence Wangh**  
(Biology)

Lecturer with rank of Assistant Professor  
**Joseph Cunningham**  
(Psychology)

Lecturer with rank of Associate Professor  
**Fran Lewitter**  
(Biology)

Lecturer with rank of Assistant Professor and Fieldwork Coordinator  
**Kathryn Spitzer Kim**

## Degree Requirements

### Master of Science\*

#### Program of Study.

The academic component of the curriculum consists of: graduate-level courses in molecular biology, human genetics, medical genetics, human reproductive biology, counseling skills, research methodology and biomedical law and ethics; two seminars in genetic counseling; and two to four electives chosen from the biological sciences, medical sociology, psychology and health policy. Student participation in a proseminar and journal club are required as well.

Fieldwork and clinical internships are an important, integral part of the program. First-year students carry out a clinical genetics laboratory rotation during the first semester and a community-based rotation in the second semester. Starting in the summer following the first year and continuing through the second year, students participate in three intensive clinical internships at prenatal, pediatric,

general or specialty genetics clinics. Satisfactory completion of the three clinical internships is required for graduation from the program.

#### Residence Requirement

The residence requirement for this program is two years of full-time study.

#### Language Requirement

There is no foreign language requirement for the master's degree.

#### Project

A master's project is required. Students may work with a genetic counselor to design and evaluate an innovative educational tool or counseling strategy relevant to their clinical work, or should their interest lean toward basic research, they may pursue a laboratory-based project.

\*Subject to the approval by the Board of Trustees (currently awards a Master of Arts degree).

## Courses of Instruction

#### Biology 105b. Molecular Biology

See biology department for course description.

Usually offered every year.

Messrs. Haber, Rosbash and Sen

#### Biology 128a. Human Genetics

See biology department for course description.

Usually offered every year.

Ms. Lewitter

#### Biology 160b. Human Reproductive Biology

See biology department for course description.

Usually offered every year.

Mr. Wangh

#### Biology 202a. Introduction to Genetic Counseling

Provides the historical and theoretical foundations for the practice of genetic counseling and the role of genetic services within the health-care delivery system. Introduces students to some of the practical aspects of genetic counseling including case preparation, pedigree construction/interpretation and medical documentation.

Usually offered every year.

Ms. Kim

#### Biology 203a. Proseminar in Genetic Counseling

Introduction to the scientific literature in the fields of human genetics and genetic counseling. Students will gain experience in reading papers and presenting them to the class for discussion.

Usually offered every year.

Mr. Haber and Ms. Tsipis

#### Biology 204b. Introduction to Clinical Genetics

Introduction to basic concepts of biochemical genetics, cytogenetics and clinical molecular genetics. Makes use of clinical cases ranging from single gene disorders to multifactorially determined conditions and includes problems in dysmorphology, inborn errors of metabolism and cancer genetics. A problem-solving approach is emphasized.

Usually offered every year.

Mr. Natowicz

#### Biology 205b. Counseling Theory and Technique

A comprehensive overview of counseling theory and practice. Includes such topics as listening, observation and interview skills and strategies; family dynamics and development; coping and adaptation processes; referral and consultation procedures; and ethical principles. Students are provided an opportunity to integrate clinical experiences with the coverage of topics.

Usually offered every year.

Staff

<b>Biology 206d. Genetic Counseling Journal Club</b>	<p>Informal biweekly meeting of students and faculty at which recent papers are discussed. (Non-credit.)</p> <p>Usually offered every year.</p> <p>Staff</p>	<b>Biology 213d. Genetic Counseling Research Project</b>	<p>Students design and carry out a research project under the supervision of a research advisor.</p> <p>Usually offered every year.</p> <p>Staff</p>
<b>Biology 207a. Genetic Counseling: Case Conferences and Family Counseling</b>	<p>Taught by a team of health care professionals. Case studies provide the basis for discussion of differential diagnosis, treatment, management and follow-up and give students an opportunity to share experiences gained during clinical internships. Discussions emphasize the interplay of medical, psychological, ethical, legal, social and cultural factors in genetic counseling.</p> <p>Usually offered every year.</p> <p>Ms. Kim</p>	<b>Biology 236a. Genetics, Law and Social Policy</b>	<p>Explores advances in human genetics, the clinical and economic benefits promised by new tests and new therapeutics derived therefrom and the myriad legal and ethical problems generated by our new ability to see deeply into and manipulate our biological future. Analysis of the role of government in regulating technological development and of the legal doctrines of privacy, informed consent and professional liability will lead to discussion of the following issues: Who should have access to genetic information? Should parents always have the right to consent to tests on behalf of their children? May one family member compel another to share genetic facts? What is the proper use of DNA testing in the criminal justice system? What is the appropriate use of genetic information by insurers and employers?</p> <p>Usually offered every year.</p> <p>Mr. Reilly</p>
<b>Biology 211d. Genetic Counseling Fieldwork Placement</b>	<p>Students work 8-12 hours/week in a clinical genetics laboratory, a community-based health service organization or a public health agency.</p> <p>Usually offered every year.</p> <p>Ms. Kim</p>		
<b>Biology 212d. Genetic Counseling Internship</b>	<p>Students work two days a week under the supervision of a genetic counselor or clinical geneticist in a prenatal, pediatric, general and/or specialty genetics clinic.</p> <p>Usually offered every year.</p> <p>Staff</p>		

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## German

See Joint Program of Literary Studies

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## History

See Comparative History



# History of American Civilization

## Objectives

The graduate program in the history of American civilization, leading to the degree of Doctor of Philosophy in history, has been designed primarily to educate professional scholars and teachers of American history. The curriculum emphasizes both a comprehensive understanding of American history and the mastery of historical research and writing. For a comparative view of the American experience, students will undertake selective studies in modern European, Asian, Latin American or African history.

A small, select student body works closely with the faculty in independent reading and research courses. From the beginning, individual programs are developed to prepare students for their qualifying examinations and guide them toward their dissertation research. Normally, the first year's work is concentrated in American history, including substantial experience in directed research and a critical approach to problems of historiography. Second-year students, while pursuing further directed research, chiefly are encouraged to choose courses to complete their preparation in the examination fields. Studies in related fields are arranged individually with appropriate members of the University's graduate

faculty, either through standard courses or directed readings. For selected students with appropriate qualifications, there are opportunities for advanced study and research with distinguished scholars at neighboring universities in such fields as legal history and business history. Applicants should note with care the four parts of the examination, specified under **Degree Requirements**, in which all students are expected to demonstrate proficiency.

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this program. An undergraduate major in history is the preferred preparation for admission, and the student's undergraduate curriculum should include some fundamental courses in American history and related fields in the social sciences or humanities. Students with the M.A. in history or a professional degree in law or other related fields are especially invited to apply. Students interested in Crown Fellowships or the special arrangements for study in professional fields at neighboring universities, noted above, should submit applications by March 1.

## Faculty

Executive  
Committee and  
Staff

Professor  
**David Hackett  
Fischer**  
Chair:  
Social and political  
structure. Early  
Republic.

Professor  
**Jacqueline Jones:**  
Southern, labor,  
African-American  
and women's  
history.

Professor  
**Morton Keller:**  
Legal and political  
institutions.  
Modern America.

Professor  
**Sam Bass Warner:**  
Urban and  
environmental  
history.

Professor  
**Stephen Whitfield:**  
Modern America.  
Cultural history.

Associate Professor  
**Joyce Antler:**  
History of  
education. Gender  
and family history.

Associate Professor  
**Gerald S. Bernstein:**  
American art and  
architecture.

Associate Professor  
**James T.  
Kloppenberg:**  
Intellectual and  
political history.

Lecturer  
**Neil Kamil:**  
Colonial America.  
Native American  
and white  
interaction.  
Material culture.

## Degree Requirements

### Master of Arts

Students who are admitted for a terminal M.A. degree must complete one full year of course work and the foreign language requirement. Courses will include the two-semester colloquium in American history, a major research project and four other courses approved by the Executive Committee.

### Doctor of Philosophy

Program of Study.

Doctoral candidates must complete three years in residence at Brandeis and a minimum of 16 semester courses. Programs of study and concentration will be formulated for each student, subject to the approval of the Executive Committee. Students will be required to maintain an average of B- or better in order to continue in the program. Continuance of fellowship support requires an average of A- or better. Incoming students normally will be expected to take two term courses of Directed Research in American History in their first year of residence. The Committee

may, at its discretion, grant a student transfer credit of up to one year toward the Ph.D. residence requirement for relevant graduate or professional work done elsewhere. Application for such credit shall be considered only after a student has completed one term's residence in a full-time program. The second 200-level Directed Research course may be waived by the Committee on the basis of a master's thesis or comparable research project at the graduate or professional level done elsewhere. In the first year all students enroll in the Colloquium in American History; in the second year, the Colloquium in Comparative History.

#### Residence Requirement.

The minimum residence requirement is three years.

#### Language Requirement.

A high level of reading proficiency in one foreign language is required of all students. Students are expected to pass the language examination during the first year of residence. A student who has not passed the foreign language examination by the end of the first year is not eligible for financial aid from the University for the second year. The completion of language requirements at another university does not exempt the candidate from the Brandeis requirement.

#### Qualifying Examination.

Each doctoral candidate must pass at the doctoral level a qualifying examination in the following four fields: (1) general American history, one examiner to be in early American history and the other in modern American history; (2) a period of specialization in American history; (3) an area of comparative modern European, Asian, Latin American or African history; (4) a related discipline in the social sciences or humanities or a subdiscipline in history. All proposed fields must be submitted in writing and approved by the Executive Committee. The period of specialization will normally be selected from the following: 1607-1763, 1763-1815, 1815-1877, 1877-1914, 1914-present. (5) The area in comparative history may focus on such themes as 19th-century emigration/immigration, 18th-century American and European political and social philosophy, the history of the modern family or the frontier in global perspective. The fourth field may involve training in politics, international relations or literature, for example, to provide perspectives and methods that can illuminate historical problems. Or it can involve a subdiscipline in history that has a distinctive subject matter and methodology, such as American social, legal, ecological or intellectual history. Students entering the program without previous graduate training in American history are expected to take the qualifying examination no later than the end of their fifth term of residence and must pass the examination by the end of the sixth term. Students who have earned an M.A. in history elsewhere, or who have one year of transfer credit for work taken elsewhere, are expected to take and pass the qualifying examination by the end of their second year in the program.

Unless the student elects a single three-hour oral examination on all four fields, the qualifying examinations will be taken separately in each of the fields, with the general American field coming at the end. For each of the fields (2), (3) and (4), as above, the student will choose one appropriate professor with the approval of the chair of the program. That professor, in consultation with the student, will define the requirements, course of preparation and mode of examination (written and/or oral) for the field.

For the general American field, the chair will appoint two members of the Executive Committee as examiners. The student may choose a one-hour oral examination or a three-hour written examination followed, if the examiners so require, by an oral examination. In either case, the two professors in consultation with the student will define in advance the major themes or problems on which the examination will be based. So far as possible, fields (3) and (4), as above, should be selected with a view to broadening and deepening the student's understanding of his/her American history fields and providing valuable background for the dissertation work.

With the consent of the chair and the professor concerned, qualified students in appropriate cases may be examined in fields (3) or (4), as above, by a faculty member at another university. Moreover, with the consent of the Executive Committee, examinations in fields (3) or (4), as above, may be waived for students with the M.A., J.D. or other advanced degrees that represent a level or kind of training and achievement fully equivalent to those required in the Harvard examinations for those fields.

#### Dissertation and Defense.

When the dissertation is accepted by the Committee, a Final Oral Examination will be scheduled at which the candidate must successfully defend his/her dissertation before the Committee and other members of the faculty who may participate.

## Courses of Instruction

History 190a. <b>Historiography</b>	A critical analysis of classical historiography.  Usually offered in odd years.  Mr. Kapelle	204e. <b>Topics in American Southern and Women's History</b>	Ms. Jones
History 198a. <b>Colloquium in the History of American Civilization</b>	Usually offered every year.  Mr. Fischer	205e. <b>Topics in American Colonial History</b>	Mr. Kamil
History 198b. <b>Colloquium in the History of American Civilization</b>	Usually offered every year.  Ms. Jones	206e. <b>Topics in Modern America</b>	Mr. Keller
History 199a. <b>Colloquium in Early Modern Comparative History</b>	An introduction to the major issues and methods in the social history of Europe in the early modern and modern periods.  Usually offered every year.  Mr. Cohn	207e. <b>Topics in Intellectual History</b>	Mr. Kloppenberg
History 199b. <b>Colloquium in European Comparative History Since the Eighteenth Century</b>	Comparative examination of major historical issues in Europe from the 18th through the 20th centuries.  Usually offered in even years.  Mr. Black	208e. <b>Topics in Urban History</b>	Mr. Warner
History 201e–209e. <b>Directed Research in American History</b>	Students will normally elect one of the following in the fall term of the first and the second years. Each is designed to provide experience in designing, researching and writing a substantial essay of a monographic character, based on extensive use of sources. This is the equivalent of a full course and extends the due date for the final draft of the paper to March 1, to permit sufficient time for a major project. Specific research topics are selected by the student in consultation with the professor.  Offered every year.	209e. <b>Topics in Modern American Cultural History</b>	Mr. Whitfield
201e. <b>Topics in American Social and Women's History</b>	Ms. Antler	History 301a or b. <b>Readings in the History of American Civilization</b>	Usually offered every term.  Specific sections for individual faculty members as requested.  Staff
202e. <b>Topics in American Art and Architecture</b>	Mr. Bernstein	The following courses are offered on a regular basis to groups of students who wish to use them to prepare for their general examinations.	
203e. <b>Topics in Social History with Emphasis on the Early Republic</b>	Mr. Fischer	History 311–319 a or b. <b>Readings in the History of American Civilization</b>	Offered every year.
		311a or b. <b>American Social and Women's History</b>	Ms. Antler
		313a or b. <b>American Social History, 1750–1850</b>	Mr. Fischer
		314a or b. <b>Labor, Southern and Women's History</b>	Ms. Jones

315a or b.  
Colonial History,  
1607-1750

Mr. Kamil

History 156b.  
American Social  
History,  
1860-present

Offered every year.

Ms. Jones

316a or b.  
Political History,  
1870-present

Mr. Keller

History 157a.  
The Culture of the  
Cold War

Usually offered every year.

Mr. Whitfield

317a or b.  
American  
Intellectual History,  
1870-present

Mr. Kloppenberg

History 158a.  
Early Modern  
European and  
Anglo-American  
History

Offered every year.

Mr. Kamil

318a or b.  
American Urban  
History

Mr. Warner

History 158b.  
Social History of the  
Confederate States  
of America

Offered every year.

Ms. Jones

319a or b?  
American Cultural  
History

Mr. Whitfield

History 401d.  
Dissertation  
Research

Offered every year.

Specific sections for individual faculty  
members as requested.

Staff

History 160b.  
Topics in Colonial  
Native American  
History

Offered every year.

Mr. Kamil

History 161b.  
The American Polity

Usually offered in even years.

Mr. Keller

For courses available to history of American civilization students in  
other historical areas, see the listings by department and programs in  
the graduate and undergraduate catalogs, especially under  
comparative history.

In addition, the following courses may be taken as equivalent to  
history of American civilization seminars.

History 151b.  
The American  
Revolution

Usually offered in odd years.

Mr. Fischer

History 152b.  
American Social  
and Cultural  
History Since the  
Civil War

Usually offered in odd years.

Staff

History 153b.  
Slavery and the  
American Civil War

Usually offered every third year.

Mr. Fischer

History 155b.  
Women in  
American History,  
1890 to the present

Usually offered every year.

Ms. Antler

History 156a.  
American Social  
History, 1750-1860

Usually offered in even years.

Mr. Fischer

History 163a.  
American Foreign  
Relations in the  
Twentieth Century

Usually offered in odd years.

Staff

History 167b.  
Topics in American  
Legal History

Usually offered in odd years.

Mr. Keller

History 169a.  
Thought and  
Culture in Modern  
America

Usually offered every year.

Mr. Kloppenberg

History 188a.  
Material Life in  
Early America:  
Comparative and  
Multidisciplinary

Usually offered every year.

Mr. Kamil

History 188b.  
Hidden Bonds of  
Womanhood:  
Women in the  
South, 1865-1980

Usually offered every year.

Ms. Jones

History 191b.  
Psychohistory

Usually offered in odd years.

Mr. Binion

History 197b.  
Seminar in  
Comparative  
History: Divided  
Cities

Usually offered every third year.

Mr. Wasserstein

History 194b.  
Politics and  
Diplomacy in  
Europe

Usually offered in odd years.

Staff

## The Lemberg Program in International Economics and Finance

### Objectives

The Lemberg Program in International Economics and Finance offers an innovative master's degree for students planning careers in international economics, business and finance. Combining courses in financial aspects of management, international economics and international relations, the program offers advanced technical training in international economics and finance along with broad preparation in the political and cultural aspects of international economic relations. One term of study is spent at a foreign university affiliated with the program.

### Financial Aid

The Lemberg Program provides some financial support, which may include tuition scholarships, research or teaching assistantships and institutional loans. Aid is based on both merit and need and is also available to foreign students. American and Canadian applicants for aid must file a GAPSAS form; foreign students must complete the financial aid form for foreign students which is part of the Lemberg Program application. The program requires parents' information for all dependent students, regardless of age, and all independent students under 24. Students who fail to provide parental information may jeopardize their consideration for institutional aid.

### Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Either GMAT or GRE scores are required. An undergraduate concentration in economics is not required, but applicants are expected to have a background in economics and related analytical subjects. Undergraduate work should include courses in intermediate microeconomics, statistics and international relations. Applicants should also have attained some proficiency in at least one major foreign language.

## Faculty

Professor <b>Peter A. Petri</b> Director, Lemberg Program: International trade. Development. Japan. Korea.	Professor <b>Rachel McCulloch:</b> International trade theory. Trade policy. Macroeconomic coordination. Investment and technology transfer.	Adjunct Professor <b>Jane E. Hughes:</b> Domestic and international cash management. Third world debt, sovereign risk and foreign exchange markets.	Associate Professor <b>H. M. Stefan Gerlach:</b> International finance. Macroeconomics.	Adjunct Assistant Professor <b>Peter L. Rathjens:</b> Finance. Econometrics.	Lecturer <b>John Evans-Klock</b> Development economics.
Professor <b>Anne P. Carter:</b> Technology progress. Technology transfer.	Professor <b>Barney K. Schwalberg:</b> Soviet economy. Labor. Education.	Adjunct Professor <b>Robert L. Kuttner:</b> Political economy and global interdependence.	Associate Professor <b>Gary H. Jefferson:</b> China. Technical progress. Open economy macroeconomics.	Assistant Professor <b>Robert J. Weiner:</b> Industrial organization. International trade. Regulation and public policy. Business economics.	Lecturer <b>Paul D. Horn:</b> Urban planning and economic development. Export research and technical assistance to small companies.
Professor <b>F. Trenergy Dolbear, Jr.:</b> Macroeconomics. Theory and computer simulations.	Professor <b>Richard S. Weckstein:</b> Development. Law and economics. International trade.	Adjunct Professor <b>Marc A. Miles:</b> International monetary policy. Globalization of markets.	Associate Professor <b>Arthur Lewbel:</b> Econometrics. Demand theory. Aggregation.	Instructor <b>Reid W. Click:</b> International corporate finance. Open-economy macroeconomics. International trade.	Adjunct Lecturer <b>H. David Sherman:</b> Accounting and management control system design. Service productivity.
Professor <b>Robert Evans, Jr.:</b> Japan. Labor. Economic history.	Visiting Professor <b>Robert Z. Aliber:</b> International finance. Multinational corporations. International investment and monetary economics.	Adjunct Professor <b>Allen Sinai:</b> Macroeconomic forecasting. Econometric modelling. Business fluctuations.	Associate Professor <b>John D. Capeci:</b> Public finance. Finance. Econometrics.		

## Degree Requirements

<b>Master of Arts</b>	Students must successfully complete an approved schedule of at least 12 courses during their three terms of residency at Brandeis. This includes seven required courses, three electives selected from a "core option" group and a final-term seminar that may include work on a master's project. Students must also successfully complete an approved schedule of courses during one term of study at an affiliated foreign university.	Language Requirement.	Candidates will be required to demonstrate a high level of proficiency in one priority foreign language.
		Internship.	Students are encouraged to serve as interns with a business or governmental agency in the summer following their first year of study.
		Project.	An optional master's project involving a thesis or a report on an appropriate internship may be submitted no later than April 15 of the year in which the degree is to be conferred.
<b>Residence Requirements.</b>	Two years of full-time study at the normal course rate will be required. One term of study will be spent at a foreign university associated with the program.		

## Courses of Instruction

<b>Economics 123a. Economy of Europe</b>	An analysis of global markets and how individuals, institutions and governments adjust to changing incentives. European integration is used as an illustration. Topics include tax harmonization, deregulation and a single currency.  Usually offered every year.  Mr. Miles	<b>Economics 135a. Industrial Organization</b>	Economic analysis of industrial organization and strategy. Topics include markets with a dominant firm, oligopoly (including several models of strategic interaction), monopolistic competition and cartels. Students construct and analyze computer-based models of market structure, conduct and performance.  Usually offered every year.  Ms. Alexander and Mr. Weiner
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<b>Economics 136b. Managerial Economics</b>	<p>An application of the skills and perspectives of economists to a variety of managerial problems in business and the public sector. Some case studies are included.</p> <p>Usually offered every year.</p> <p>Mr. Dolbear</p>	<b>Economics 172b. Money and Banking</b>	<p>Considers the operation of banks and other financial institutions in a money- and capital-market setting. The role of central banks in the control of the quantity of money is examined in relation to the performance of the national economy. Supervision of banks and the internationalization of banking are also studied.</p> <p>Usually offered every year.</p> <p>Mr. Weckstein</p>
<b>Economics 141b. The Economics of Technological Change</b>	<p>Technological change as the central focus of modern economies. Topics include economics of research and development, innovation, diffusion and technology transfer, appropriability, patents, information markets, productivity, intersectoral effects and global competitiveness.</p> <p>Usually offered every year.</p> <p>Ms. Carter</p>	<b>Economics 175a. Development Economics</b>	<p>Draws upon formal models and empirical literature for the purpose of investigating economic growth, production, sectoral development, household fertility and savings decisions and external trade and investment.</p> <p>Usually offered in odd years.</p> <p>Mr. Jefferson</p>
<b>Economics 160a. International Trade Theory</b>	<p>Causes and consequences of international trade and factor movements. Topics include determinants of trade, effects on welfare and income distribution, trade and growth, protection, foreign investment, immigration and preferential trading.</p> <p>Usually offered every year.</p> <p>Ms. McCulloch</p>	<b>Economics 182a. Advanced Macroeconomics</b>	<p>Current research issues in macroeconomic theory. Topics include inflation, unemployment, the budget deficit, monetarism and rational expectations.</p> <p>Usually offered in even years.</p> <p>Mr. Dolbear</p>
<b>Economics 161a. The Firm in the International Economy</b>	<p>Applications of international economic theory—regarding trade, the balance of payments, investments and exchange rates—to the management of import/export firms and multinational corporations.</p> <p>Usually offered every year.</p> <p>Mr. Click</p>	<b>Economics 184b. Econometrics</b>	<p>An introduction to the theory of econometric regression and forecasting models, with applications to the analysis of business and economic data.</p> <p>Usually offered every year.</p> <p>Mr. Lewbel</p>
<b>Economics 171a Financial Theory</b>	<p>An introduction to financial economics. Topics include the selection of assets, portfolio choice under uncertainty, equilibrium asset pricing models, the efficient markets hypothesis and futures and options markets.</p> <p>Usually offered every year.</p> <p>Mr. Capeci</p>	<b>Economics 186b. Quantitative Models in Economics and Finance</b>	<p>Survey of multi-equation quantitative models in economic and financial analysis. Model types that are covered include macroeconomic models, financial and other simulation models, computable general equilibrium models, input-output analysis and linear programming.</p> <p>Usually offered in odd years.</p> <p>Mr. Petri</p>
<b>Economics 171b. Topics in Finance</b>	<p>Investigates several topics in finance in greater detail than in 171a, including the theory of choice using state-preference utility theory, the pricing of contingent claims, future contracts and markets and current empirical analysis into questions in finance.</p> <p>Usually offered every year.</p> <p>Staff</p>	<b>Economics 187a. Workshop in Business Cycles and Forecasting</b>	<p>Develops an analytical framework for forecasting economic and financial market activities in the context of the American business cycle. A model-building approach is utilized to construct elementary, intermediate and more contemporary models of the U.S. economy and financial markets.</p> <p>Usually offered every year.</p> <p>Mr. Sinai</p>

<b>Economics 188b. Optimization in Economics</b>	Covers optimization techniques, including linear programming and game and decision theory. Applications focus on microeconomic problems.  Usually offered every year.  Mr. Lewbel	<b>IEF 201a. International Macroeconomics I</b>	Analysis of national accounts and economic fluctuations, equilibrium in goods and money markets, aggregate supply and demand and the role of trade and international capital movements. Open-economy concepts are stressed and international comparisons are used to highlight the microeconomic determinants of macroeconomic institutions and policy.  Usually offered every year.  Messrs. Click and Dolbear
<b>IEF 111a. International Corporate Finance</b>	Analysis of the exposure of the multinational firm from accounting and economic perspectives, survey of investment finance and other international operations.  Usually offered every year.  Mr. Click	<b>IEF 202b. International Macroeconomics II</b>	Reviews standard international macroeconomics, including balance of payments accounting, PPP and interest parity and the Mundell-Fleming paradigm. Advanced topics include speculative attacks against fixed exchange rate regimes, models of target zone and stopping hyperinflations.  Usually offered every year.  Mr. Gerlach
<b>IEF 112a. Accounting and Financial Analysis</b>	Introduction to basic accounting principles, including analysis of financial statements using case studies. Develops fundamental concepts and accounts and applies them to income measurement, capital values and costs, with a focus on international accounting issues.  Usually offered every year.  Ms. Hughes	<b>IEF 203a. Analytical Problems in International Economics and Finance</b>	Introduction for first-year graduate students to important problems and basic analytical methods in the fields of international economics and finance. Covers contemporary issues in economic policy as well as cases in international financial and business strategy. Emphasizes writing and presentation skills through short paper assignments and in-depth classroom discussions.  Usually offered every year.  Mr. Aliber and Ms. McCulloch
<b>IEF 115b. International Financial Markets</b>	Analysis of the institutions and instruments of international capital markets, including new market participants. Review of spot, forward and options markets for foreign exchange, as well as eurocurrency and international bond markets, making extensive use of case studies.  Usually offered every year.  Ms. Hughes	<b>IEF 205a. Financial Theory</b>	Topics related to financial economics, including investors' attitudes toward risk, portfolio selection, asset pricing models (Capital Asset Pricing Model and the Arbitrage Pricing Model), options and future markets, the efficient market hypothesis and the determinants of a firm's financial structure.  Usually offered every year.  Mr. Capeci
<b>IEF 117a. Innovation in Global Financial Markets</b>	Analysis of the development of new financial instruments and relates innovation in financial markets to the liberalization of national regulation. Applications to selected episodes including the emergence of Great Britain in the 19th century and Japan in the late 20th as dominant exporters.  Usually offered every year.  Mr. Aliber	<b>IEF 211b. Case Studies in International Finance</b>	Analysis of international corporate finance using case studies in the areas of foreign exchange exposure management, corporate capital transactions, foreign investment analysis, international banking and investment banking.  Usually offered every year.  Ms. Hughes
<b>IEF 121b. Law and International Economics</b>	Review of U.S. and foreign laws applying to international transactions and the operation of financial institutions and economic analysis of international, commercial and financial law.  Usually offered every year.  Mr. Weckstein		



<b>IEF 212b. Accounting and Financial Analysis II</b>	Analysis of the techniques used by accountants to measure assets, equities and profits, with particular emphasis on the preparation and especially interpretation of corporate financial statements. Survey of alternative accounting systems and analysis of authoritative pronouncements. Emphasis on international issues.	<b>IEF 227b. The Japanese Economy</b>	Examination of Japanese economic history, growth and special features of Japanese economic institutions. Topics include various issues in labor economics, industrial organization, economic strategy at both the micro- and macroeconomic levels and prospective changes in dependence on trade.
	Usually offered every year.		Usually offered every year.
	Mr. Sherman		Mr. Evans
<b>IEF 214b. International Business: Economics and Strategy</b>	Concepts and evidence from industrial organization and international trade are applied to problems of business strategy, focusing on competition in international markets. Specific topics include the structure of competition in international industries and the role of institutions such as trading firms and countertrade. The course also examines the role of government through regulation and state-owned enterprise.	<b>IEF 265a. The Chinese Economy</b>	Examines special features of important periods and episodes of China's modern economy, starting with the prerevolutionary period and including the recent reform program. Major themes include the impact of various economic policies and experiments, investment priorities, population growth, foreign technology and trade on the pattern and rate of development of the Chinese economy. Since few countries have embraced the range of national economic objectives and variety of institutional arrangements that China has in the last half century, the study of China's economy offers valuable insights into comparative economic systems, problems of economic and social development and issues of industrial organization.
	Usually offered every year.		
	Mr. Weiner		
<b>IEF 221a. Laboratory in International Business</b>	Covers the internationalization of U.S. business through direct observation and participation in decisions faced by area companies. Some students research case studies describing the past export experiences of companies, while others prepare consultant reports for companies that are currently developing internationalization strategies. Students work independently in small teams supervised by faculty.	<b>IEF 299b. Seminar in International Economics and Finance</b>	In-depth analysis of special topics in contemporary international economics and finance. Topics vary from year to year and have included Korean export and financial market policies, the U.S.-Canada Free Trade Agreement, U.S.-Japan economic relations and the world oil market. The seminar features presentations by invited professionals and students. Students are required to participate actively and contribute several short research papers.
	Usually offered every year.		Usually offered in odd years.
	Ms. Hughes and Mr. Horn		Mr. Jefferson
<b>IEF 221b. Laboratory in International Business</b>	See description for IEF 221a. IEF 221a is not a prerequisite.		
	Usually offered every year.		
	Ms. Hughes and Mr. Horn		Usually offered every year.
			Ms. McCulloch and Mr. Petri

# The Hornstein Program in Jewish Communal Service

## Objectives

The two-year program in Jewish communal service or Jewish education leading to the Master of Arts degree integrates Jewish studies and professional training through courses, internships and cocurricular activities. It prepares students for leadership positions in a variety of settings, including federations, community centers, Hillel foundations, schools and other communal organizations. In addition to the basic program in Jewish communal service, students can concentrate their studies in (1) fund-raising and philanthropy, (2) Jewish advocacy or (3) Jewish education. A special one-year master's program is available to students with graduate degrees in social work, Jewish studies or a related field. In addition, a three-year double degree program leading to the M.A. in Jewish communal service and M.A. in Near Eastern and Judaic Studies is also offered; it is recommended to students interested in careers in Jewish education. Part-time study is permitted, but students must complete the program in no more than four years.

## Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to the Hornstein Program in Jewish Communal Service. In addition, applicants are expected to submit results of either the Graduate Record Examination or the Miller Analogies Test, a statement that describes the applicant's Jewish training and background and future vocational plans and a sample of written material. Applicants are expected to arrange for a personal interview.

## Faculty

Professor  
**Bernard Reisman**  
Director:  
American Jewish  
communal studies.

Visiting Professor  
**Earl Rabb**  
Jewish advocacy.

Visiting Professor  
**Carmi Schwartz**:  
Philanthropy and  
fund-raising.

Adjunct Associate  
Professor  
**Sherry Israel**:  
American Jewish  
society. Israeli  
society.

Associate Professor  
**Joseph Reimer**:  
Contemporary  
Judaism. Jewish  
identity.

Adjunct Assistant  
Professor  
**Susan Shevitz**:  
Jewish education:  
organizational  
theory.

Adjunct Assistant  
Professor  
**Lawrence  
Sternberg**:  
Jewish advocacy  
and community  
relations.

Lecturer with rank  
of Assistant  
Professor  
**Nancy Bloom**:  
Fieldwork. Jewish  
communal service.

Lecturer  
**Joshua Elkin**:  
Jewish education.

Lecturer  
**Daniel Margolis**:  
Jewish education.

Lecturer  
**Avi Weinstein**:  
Jewish traditional  
sources

See the  
Department of  
Near Eastern and  
Judaic Studies and  
the Heller School  
catalog for other  
faculty and course  
offerings.

## Degree Requirements

### Master of Arts

Students in the Hornstein Program may concentrate in one of the following:

1. Jewish communal service (with specializations in group work and community organization or management) or
2. Jewish education (formal or informal)
3. Jewish advocacy
4. Fund-raising and philanthropy

### Academic Studies

Students are expected to complete a minimum of 16 courses, including study in the following areas: professional studies, contemporary Jewish studies and classical Jewish studies. Students may take courses at other Boston-area graduate schools (Boston University and Boston College).

### Cocurricular Courses.

**Seminar on Contemporary Jewish Issues.**  
During the fall term this seminar meets once each week with guest speakers having a particular point of view on a range of subjects on the Jewish agenda today.

**Tisch Seminars.**  
Once each year both first- and second-year students participate in an intensive institute focusing on an area of professional skill.

**Betty Starr Colloquium.**  
For first-year students. During intercession three days are devoted to visiting the national offices in New York City of major Jewish organizations.

**Milender Seminar in Jewish Communal Leadership.**

Each year both first- and second-year students participate in a three-day seminar on Jewish communal leadership with an outstanding professional leader of the Jewish communal world.

**Summer Study in Israel.**

Joseph and Esther Foster Seminar in Israel on contemporary Jewish life is sponsored in cooperation with the Center for Jewish Education in the Diaspora of Hebrew University and is required of all students at the completion of their first year of study. The four-week program, held during May and June, is a combination of classes and field visits designed to provide an in-depth analysis of Israel. Costs for the Israel seminar are partially subsidized by scholarships provided by the Joseph and Esther Foster Fund and the Jewish Agency. Students are expected to pay the remainder of the cost.

**Fieldwork/ Internship.**

Students have two fieldwork experiences in a Boston-area Jewish educational or communal service organization. In the first year, fieldwork is 15 hours a week; in the second year, 20 hours. This schedule requires students to be in residence through the end of May and to plan for a shorter winter intersession than indicated in the University's Academic Calendar.

**Substantive Paper.**

Students are required during the second year to submit a major substantive paper growing out of some phase of their fieldwork experience. The paper should analyze a practical issue in Jewish communal service in light of both the student's own experience and the relevant literature.

**Residence Requirement.**

The residence requirement is two years of full-time study or the equivalent thereof in part-time study.

**Language Requirement.**

Fluency in Hebrew is required at a level comparable to two years of college training. Students not meeting this requirement upon entrance are required to enroll in courses in Hebrew language—not for credit.

**Three Year Double Master's Program: Hornstein/NEJS****Program of Study.**

For students accepted into the Hornstein Program who seek a more intensive level of Judaica Studies than is normally available in the two-year curriculum. Students who enroll in the three-year program devote most of their first year to general Judaica Studies and must take at least one additional NEJS course in each of their remaining two years. These must be regular graduate (100 or 200 level) NEJS courses, not courses primarily geared for Jewish Communal Service students, and only one of the courses may deal primarily with the contemporary period. NEJS course selections must be approved by the NEJS faculty member overseeing this program.

In their first year, students must complete six NEJS courses and JCS 205 (Introduction to Jewish Communal Service). In their second year, students must complete one NEJS course and seven JCS courses and in the summer complete the Israel Seminar (SS350) and individualized Judaica study in Israel (SSIP). In their third year, students must complete one NEJS course (that may be a reading course to prepare for comprehensive) and six JCS courses.

**Admission.**

In most cases, incoming students apply to Hornstein for the three-year program and have to be accepted by both departments. However, a regular two-year Hornstein student may apply after the first year to be accepted for the three-year program and an M.A. student in NEJS may apply midcourse for the three-year program. In all cases, students must be accepted by both departments.

**Residence Requirement.**

Three years of full-time residence are required. The only exception is a student accepted into the 12-month Hornstein Program, having earned a previous M.A. in a related field of human service, who may complete the Hornstein requirements in fewer than the regular two years.

**Language Requirement.**

Candidates are expected to establish competence in Hebrew or Arabic.

**Comprehensive Examination.**

All candidates must pass a comprehensive examination, usually offered in the middle of the third year of study.

## Courses of Instruction

JCS 53b. <b>Introduction to Talmud</b>	See NEJS 53b for special notes and course description. Usually offered every year.  Mr. Kimelman	JCS 166b. <b>Modern Jewish History 1830-1948</b>	See NEJS 166b for course description.  Usually offered every fourth year.  Last offered Spring 1989.  Mr. Reinhartz
JCS 120b. <b>Intermediate Talmud</b>	See NEJS 120b for special notes and course description.  Usually offered every year.  Mr. Kimelman	JCS 169a. <b>The Destruction of European Jewry</b>	See NEJS 169a for course description.  Usually offered every year.  Staff
JCS 126a. <b>Classical Rabbinic Thought</b>	See NEJS 126a for special notes and course description.  Usually offered every fourth year.  Last offered Spring 1991.  Mr. Kimelman	JCS 169b. <b>Responses to the Holocaust</b>	See NEJS 169b for course description.  Usually offered every year.  Staff
JCS 127b. <b>The Jewish Liturgy</b>	See NEJS 127b for special notes and course description.  Usually offered every fourth year.  Last offered Spring 1989.  Mr. Kimelman	JCS 202b. <b>Jewish Life Cycle</b>	Focusing on central moments of transition in the Jewish life cycle, this course explores the traditional basis for celebrating life cycle events and the psychological significance of these events.  Usually offered in odd years.  Mr. Reimer
JCS 142a. <b>Introduction to Post-Biblical Jewish History</b>	See NEJS 142a for special notes and course description.  Usually offered in odd years.  Mr. Ravid	JCS 203b. <b>Jewish Family Education</b>	Every person emerges from a family experience that leaves its mark on personal and professional identity. Explores the dynamics of Jewish family life, the growth and changes in family life and the ways to educate Jewish families.  Usually offered in odd years.  Mr. Reimer
JCS 157a. <b>History of Israel, 1948-Present</b>	See NEJS 157a for course description.  Usually offered in even years.  Mr. Reinhartz	JCS 205a. <b>Introduction to Jewish Communal Service</b>	History of American Jewish communal service, the settings in which services are offered and the factors making for effective professional performance.  Usually offered every year.  Mr. Reisman
JCS 160a. <b>The Emergence of the American Jewish Pattern</b>	See NEJS 160a for course description.  Usually offered every year.  Staff	JCS 205b. <b>Theory and Skills of Jewish Communal Service</b>	Analyzes societal developments that affect American Jews and calls for a new ideology, priorities and programs.  Usually offered in even years.  Mr. Reisman
JCS 163b. <b>American Jewish Leadership</b>	See NEJS 163b for course description.  Usually offered in even years.  Mr. Sarna		
JCS 166a. <b>Modern Jewish History to 1880</b>	See NEJS 166a for course description.  Usually offered every fourth year.  Last offered Fall 1988.  Mr. Reinhartz		

JCS 206b. <b>Informal Education and Small Groups</b>	Two approaches to Jewish communal leadership: (1) informal, experiential education and (2) small group dynamics—leadership, group process, individual dynamics and self-awareness of Jewish communal professionals.  Usually offered in even years.  Mr. Reisman	JCS 217b. <b>Issues in Contemporary Israel and Relations with the Diaspora</b>	Focuses on political and social changes in contemporary Israel and the changing relationship between Israel and the Diaspora.  Usually offered every year.  Staff
JCS 207b. <b>Jewish Ideology and Jewish Communal Leadership</b>	Examines changing social forces and ideological issues for Jewish leaders i.e., issues of spirituality, Israel/Diaspora and other basic Jewish motifs.  Usually offered in odd years.  Mr. Reisman	JCS 220b. <b>Jewish Community Relations</b>	An introduction to the field of Jewish community relations in the United States including a view of the development of modern Jewish defense organizations; an analysis of American Jewish community relations organizations and their constituencies; an examination of issues addressed and methods used by community relations agencies; and an introduction to professional methods in community organization.  Usually offered in odd years.  Messrs. Sternberg and Raab
JCS 211a. <b>Jewish Adaptation to American Life</b>	How American Jews' understanding of Jewish identity and community reflect and are affected by the American milieu. A contemporary look at classic issues of assimilation, adaptation and accommodation.  Usually offered in even years.  Ms. Israel	JCS 221b. <b>Jewish Education in America</b>	An introductory course that examines how the Jewish community is organized to provide voluntary education in an open society. Types of formal and informal Jewish education, organizational structures and their communal dimensions are explored. Special attention is given to the implications of new educational settings, demographic shifts and social changes in American society.  Usually offered in even years.  Messrs. Elkin and Margolis
JCS 213b. <b>Basic Jewish Literacy</b>	<i>Former title: Jewish Traditions in Communal Service.</i>  Designed to familiarize students with some of the basic terms, concepts and texts of traditional Judaism. Aims to give a deeper understanding of Judaism that would allow students greater effectiveness in dealing with a religiously diverse Jewish community.  Usually offered in even years.  Mr. Reimer	JCS 223b. <b>The American Jewish Experience: Sources and Interpretations</b>	See NEJS 221b for course description.  Usually offered in odd years.  Mr. Sarna
JCS 215a. <b>The Developing Learner in a Jewish Educational Setting</b>	Helps Jewish educators get a clearer sense of the learning needs of students and other clientele. Through the discipline of developmental psychology, the course covers periods of child, adolescent and adult development, trying to apply what is learned from a general psychology to the particular settings in which Jewish education is pursued.  Usually offered in odd years.  Mr. Reimer	JCS 228b. <b>Jewish Communal Issues in the Nineties</b>	Significant new developments in Jewish life and their implications for communal policy and programming. Topics include the changing demography of the Jewish community, pluralism and religious factionalism, women's status and roles, the Jewish media and emerging special interest populations.  Usually offered in odd years.  Ms. Israel
JCS 216a. <b>Philosophy of Jewish Education</b>	<i>Formerly JCS 217a.</i>  Examines two questions: (1) what modern classics in philosophy of education teach us about the pursuit of Jewish education and (2) what modern Jewish philosophers teach us about teaching Judaism in today's world.  Usually offered in even years.  Mr. Reimer		

<p>JCS 229a. <b>Jewish Life: Organization and Agenda</b></p>	<p>Examines the structure and function of the organized Jewish community, with special attention to key issues such as leadership, decision making, organizational culture and the relations between the many elements of the community. Primary focus is on the American Jewish community with some attention to Israel/overseas organizations and other diaspora communities.</p> <p>Usually offered every year.</p> <p>Ms. Israel</p>	<p>JCS 238b. <b>Practicum in Jewish Philanthropy and Fund-raising</b></p>	<p>Provides an opportunity to integrate experience in fieldwork with course work. Using case studies developed by both students and faculty, we take a problem solving approach as we explore issues of practice.</p> <p>Usually offered every year.</p> <p>Staff</p>
<p>JCS 234b. <b>Curriculum Theory and Development</b></p>	<p>Students gain an understanding of the considerations and constraints of curriculum design for the formal and informal Jewish educational settings. Curriculum theory is considered as students confront the process of curriculum design and deliberation.</p> <p>Usually offered in even years.</p> <p>Messrs. Margolis and Elkin</p>	<p>JCS 239b. <b>History and Philosophy of Jewish Philanthropy and Fund-raising</b></p>	<p>Shows that modern organized efforts of Jewish philanthropy and fund-raising are the fulfillment of Biblical and Talmudic imperatives adapted to the open, industrialized society. The interplay between Jewish thought and traditions with American social values are examined.</p> <p>Usually offered in odd years.</p> <p>Mr. Schwartz</p>
<p>JCS 235c. <b>Seminar: The Culture of Jewish Educational Settings</b></p>	<p>Provides models for considering the culture of the fieldwork agency and the community in which it functions in order to understand the change process in formal and informal Jewish educational settings. Theoretical literature is applied to a series of cases as a notion of educational leadership is developed.</p> <p>Usually offered in even years.</p> <p>Ms. Shevitz</p>	<p>JCS 240a. <b>Jewish Advocacy: History, Issues and Trends</b></p>	<p>Examines the Jewish community relations organizations in North America, their early development, changing agendas and styles of operation. The major focus is on the current issues facing the American Jewish community and the strategies to address them.</p> <p>Usually offered in odd years.</p> <p>Messrs. Sternberg and Raab.</p>
<p>JCS 236c. <b>Practicum: Teaching in a Jewish Setting</b></p>	<p>Applies learning theory, pedagogic principles and research to the challenges of working in Jewish educational settings (formal and informal). Through readings, structured observations of teachers, visits to different classes and a micro-teaching laboratory, students gain awareness of the art and science of teaching while developing their own teaching abilities.</p> <p>Usually offered in odd years.</p> <p>Ms. Shevitz</p>	<p>JCS 241a. <b>Skills and Techniques in Jewish Philanthropy and Fund-raising</b></p>	<p>Provides a conceptual framework and develops a community organizational approach to organizing and implementing fund-raising campaigns for Jewish communal organizations.</p> <p>Usually offered in even years.</p> <p>Ms. Kadish</p>
<p>JCS 237b. <b>Organizations: Theory and Behavior</b></p>	<p>Organizations, even when carefully designed to be effective and/or benign environments, have characteristics that sometimes confound and frustrate the most dedicated personnel. This course examines major theories of organization with special attention to the implications they hold for understanding, diagnosing and managing what goes on. By applying different analytic frameworks to real and simulated organizational dilemmas, students will gain perspectives and skills to help them productively handle the inevitable tensions of life in communal institutions.</p> <p>Usually offered in odd years.</p> <p>Ms. Shevitz</p>	<p>JCS 242a. <b>Applied Skills in Jewish Advocacy</b></p>	<p>A systematic study of and active involvement in methods for organizing the media and the general, political and Jewish communities in order to affect such community relations issues as anti-Semitism, American support of Israel and so forth.</p> <p>Usually offered in even years.</p> <p>Messrs. Sternberg and Raab</p>
		<p>JCS 242b. <b>Advocacy Practicum</b></p>	<p>Focuses on specialized topics in Jewish advocacy. Analyzes specific areas of knowledge and/or techniques utilized by advocacy professionals. Topics are chosen in consultation with advocacy students.</p> <p>Usually offered every year.</p> <p>Mr. Sternberg</p>

**JCS 243b.  
Educational  
Leadership:  
Administration and  
Supervision**

Patterns of educational organization, staff development, supervision and school management are examined in light of recent qualitative and quantitative research about educational leadership. The implications for Jewish education are analyzed.

Usually offered in even years.

Messrs. Margolis and Elkin

**JCS 248d.  
Methods in Jewish  
Communal Service**

Students are placed in selected Jewish communal organizations during the first year for two days a week of field practice. They receive individual supervision from an agency field supervisor. The seminar meets weekly and focuses on work with groups, professional development and Jewish community resources and services.

Usually offered every year.

Ms. Bloom

**JCS 250d.  
Professional  
Integrative Seminar**

Seeks to develop common theoretical bases for Jewish communal professionals who will work in Jewish educational and communal settings. The theory is applied to a series of practical professional tasks with the objective of enriching professional skills. The seminar meets weekly in the fall term and biweekly in the spring term.

Usually offered every year.

Mr. Reisman and Ms. Shevitz

**JCS 287a.  
Methods in Jewish  
Community  
Research**

Acquaints both researchers and preprofessionals in Jewish communal service with basic research techniques. Includes readings on methods and planning applications in Jewish communal agencies.

Usually offered in even years.

Messrs. Tobin and Berger

**JCS 287b.  
Planning and Policy  
Analysis for Jewish  
Communal  
Professional**

Develops a conceptual framework and practical skills needed to facilitate planning and decision making processes in Jewish organizations. Applies principles and methods of planning and policy analysis to various areas of Jewish communal work such as service and program development, fund-raising and community relations.

Usually offered every year.

Staff

**JCS-SS350.  
Foster Seminar in  
Israel on  
Contemporary  
Jewish Issues**

Offered every year from mid-May through mid-June in Israel in cooperation with the Center for Jewish Education in the Diaspora at The Hebrew University.

Usually offered every year.

Staff

**Seminar on  
Contemporary  
Jewish Issues**

Required of all first-year students.

During the fall semester, this seminar meets every Friday with guest speakers having a particular point of view on a range of subjects on the contemporary Jewish agenda.

# Joint Program of Literary Studies

## Comparative Literature, French, German, Russian and Spanish

### Objectives

The Joint Program of Literary Studies (JPLS) accepts students desiring an M.A. and/or Ph.D. degree in one of the areas listed above. Interdisciplinary in design, the program aims to train literary scholars and teachers whose professional capabilities will be broader than their individual specialties. Students have the opportunity to study the theory of literature, the history and theory of literary criticism, and scholarly methodology, in addition to the specific literatures in which the degree will be earned. A small and carefully selected student body work closely with the faculty of the program and with one another in a core curriculum before specializing. Students are encouraged to plan an individual program of studies within their field of interest, in consultation with their advisor(s). Although the program encourages individual initiative, with the advice and consent of advisor(s), it should be stressed that all students, whatever their areas, must master the basic literature, primary and secondary, in their field. The general examinations assume both breadth and depth of such knowledge. (Reading lists for each area are available.)

JPLS is, by definition, interested in promoting a "comparative" approach to literary studies. Even students who plan to focus on a single literature are engaged in seminars that promote the perspective of cross-cultural approaches: themes, motives, genres, "periods," etc.

In addition, JPLS encourages students with interdisciplinary interests to pursue their literary studies in relation to certain other disciplines, in particular the following: comparative history (under the auspices of the Department of History), music, sociology and theater arts. Such students are invited to explore the seminar offerings in these programs or consult with the Graduate Advisors of any one of these programs for guidance on the suitability of certain 100 level courses listed in the undergraduate *Bulletin*.

(JPLS students may also receive approval for seminars in other programs, e.g., English.) The Interdisciplinary Seminar, offered each year as the "Mellon" Seminar, is open to students from various programs, including JPLS, on approval of that seminar's instructors.

### Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this program. Applications must be received no later than March 1. Please be sure to mark clearly the area of your choice (comparative literature, French, German, Russian or Spanish) on the application form. Each applicant must submit one or more college-level essays on a literary subject (one of which should be written in English) as a sample of work.

### Faculty

#### Committee:

Professor  
**Murray Sachs**  
Chair  
(French)

Professor  
**Edward Engelberg**  
(Comparative  
Literature)

Professor  
**Edward K. Kaplan**  
(Literary Theory)

Professor  
**Robert Szulkin**  
(Russian)

Professor  
**Harry Zohn**  
(German)

Associate Professor  
**Dian Fox**  
(Spanish)

In addition, other faculty members of the Departments of Germanic and Slavic Languages and Romance and Comparative Literature participate in this program.

### Degree Requirements

#### Master of Arts

Students who have completed two years of full-time study in residence may be awarded the M.A. degree. Such students must be in good standing (no incompletes). In addition, such students must have passed the language requirement, either by certification or examination, demonstrating research capability in **one** foreign language **other** than the major language. Finally, such students must have performed satisfactorily on the qualifying examinations.

#### Doctor of Philosophy

##### Program of Study.

Individual programs of study will be arranged between students and their advisors. The core curriculum consists of several elements: all students in the program are obligated to enroll in JPLS 201 (The History and Theory of Criticism); all students will be held responsible for certain works on literary theory, literary history and aesthetics (not studied in the criticism seminars) at the time of the general examination.



	<p>Although the program is designed to permit students to develop their studies coincident with their interests and talents, and in consultation with their advisor(s), full-time students are expected to enroll in at least <b>three</b> literary studies seminars during the first year of residence and in two seminars the second year. In addition to JPLS 201, first-year students are thus expected to augment this schedule with at least two additional seminars from the literary studies offerings and suitable 100-level literature courses in areas of specialization (e.g., French, Spanish, German, etc.) or from offerings in comparative literature and European cultural studies.</p>	<p>Dissertation and Defense.</p>	<p>The completed dissertation must be read and found acceptable by its director and two other readers before the candidate is eligible for the Final Oral Examination. This examination is conducted by a committee of not less than four, one of whom must come from outside the candidate's area.</p>
		<p>Teaching.</p>	<p>All students in the program are expected to do some supervised teaching, either as a teaching assistant or by means of other arrangements. In some areas, where teaching assistantships may at times be unavailable, students will be expected to fulfill some teaching assignments (occasional class lectures, for example) without remuneration.</p>
Residence Requirements.	<p>The minimum residence requirement is three years of full-time study beyond the bachelor's degree. Additional course work during the third year is generally recommended.</p>	<p><b>For Candidates in Comparative Literature.</b></p>	<p>1. Any student in the program who declares candidacy in comparative literature should decide, as soon as possible, on a <b>major</b> and <b>minor</b> literature. The <b>major</b> literature must be one of those offered by either the Department of Germanic and Slavic Languages or Romance and Comparative Literature (but not Italian). The <b>minor</b> literature may be Italian, any of the major literatures (see above), English, American or, after consultation, some other literature offered by the University. Exact "proportions" cannot be stated in advance and will be worked out in consultation between students and advisor(s). 2. Candidates in comparative literature are expected to take three language examinations as follows:</p>
Language Requirement.	<p>Students will be asked to demonstrate a reading competence in at least two foreign languages to be determined in consultation with their advisors. In certain areas of specialization, additional languages (e.g., Latin) may become necessary research tools. (Comparative literature students should consult the special statement on language requirements below.) Students must be certified in at least one language by the end of their first year in residence.</p>		<p>a. The major language, which should be near level of mastery (reading, writing and speaking) on acceptance to the program. Students may simply be "certified" for this language if their level of competence is obvious.</p>
Qualifying Examinations.	<p>Qualifying examinations must be taken at the start of a student's second full year in residence, with the purpose of determining that the student is qualified to study literature productively at the graduate level. Only students who have a complete and satisfactory record for their first year will be permitted to take the qualifying examinations. <b>No postponement of these examinations is allowed.</b> The examinations are both written and oral and will be scheduled each year for the third or fourth week in September. The examinations are prepared and conducted by a three-member faculty committee, chosen at the end of the first year of study by the candidate, in consultation with the candidate's faculty advisor. After the examinations, the candidate receives a detailed written evaluation from the three-member committee, based on the written and oral performances.</p>		<p>b. The second foreign language should be mastered as a reading language with a fluency that will permit easy access to all primary and secondary literature in the specified area.</p>
	<p>Students may take the general examinations, which demonstrate full competency in their chosen discipline, whenever they and their advisors feel they can appropriately do so, normally in the spring term of the third year. However, all students are expected to have completed the general examinations no later than the fall term of their fourth year in residence. Examinations will be offered twice each academic year, in October and May, and will consist of three written examinations and an oral examination. Details about the contents and procedures are available on request.</p>		<p>c. The third foreign language should be a reading tool for primary and especially secondary materials.</p> <p>It is quite possible that for certain areas of specialization—medieval, Renaissance, etc.—additional languages will become necessary (e.g., Latin, Catalan, Old French).</p>

## Courses of Instruction

Literary Studies 201a. <b>History and Theory of Criticism: The Development of Modern Critical Theories</b>	Offered every year.  Mr. Kaplan	Literary Studies 212b. <b>Techniques of Stylistic Analysis</b>	Usually offered every fourth year.  Mr. Frey
Literary Studies 202b. <b>Fiction: Theory and Practice</b>	Usually offered in even years.  Mr. Sachs	Literary Studies 213b. <b>Modes of the Grotesque in Art and Literature</b>	Usually offered every fourth year.  Mr. Szulkin
Literary Studies 203a. <b>Romantic Phenomena</b>	Usually offered in even years.  Mr. Engelberg	Literary Studies 215a. <b>Poetry, Criticism and Modernity: Baudelaire and His Contemporaries</b>	Usually offered every fourth year.  Mr. Kaplan
Literary Studies 204a. <b>Theory and Practice of Literary Translation</b>	Usually offered in even years.  Mr. Zohn	Literary Studies 216b. <b>The End of the World</b>	Readings in "High Modernism": Proust, Joyce, Mann, Yeats, T.S. Eliot.  Usually offered every fourth year.  Mr. Engelberg
Literary Studies 205a. <b>Crosscurrents in the French and English Enlightenments</b>	Usually offered every fourth year.  Mr. Gendzier	Literary Studies 217a. <b>Russian Prose Forms and the European Tradition</b>	Focuses on three major Russian novels of the 19th century— <i>Dead Souls</i> , <i>War and Peace</i> and <i>The Brothers Karamazov</i> —in the double context of the novel in Europe and current critical theory. According to their interests, students will help shape the reading for this seminar; they will draw additional readings primarily from the work of Cervantes, Diderot, Rousseau, Sterne, Maturin and George Eliot.  Usually offered every fourth year.  Ms. Miller
Literary Studies 206b. <b>The Comic in Literature: Theory and Practice</b>	Usually offered every fourth year.  Mr. Sachs	Literary Studies 220a. <b>Modes of Narrative: Epic and Romance</b>	This seminar focuses on the development of two literary genres, the epic and romance, from Dante's <i>Divine Comedy</i> through Spenser's <i>Fairie Queene</i> and Cervantes's <i>Don Quixote</i> . We attempt to determine to what extent the two genres become merged as each successive literary generation, in various national literatures, remodels established conventions, formulas and tropes. We attempt to trace the emergence of the novel from these genres and examine some modern reworkings of typical romance material. Other major texts under analysis include <i>The Romance of the Rose</i> , romances from the Arthurian tradition by Chrétien de Troyes, Chaucer, the Gawain poet, Ariosto's <i>Orlando Furioso</i> and Cervantes's <i>Don Quixote</i> . Modern parodies and adaptations may include works like Walker Percy's <i>The Second Coming</i> and Barthelme's <i>The King</i> .
Literary Studies 207a. <b>Marxist Criticism: Literature and Society in Early Modern Europe</b>	Usually offered every fourth year.  Ms. Harth		
Literary Studies 208b. <b>Cervantes in His European Context: Heritage and Lineage</b>	Usually offered every fourth year.  Ms. Fox		
Literary Studies 209a. <b>Modern Phenomena</b>	Usually offered in odd years.  Mr. Engelberg		
Literary Studies 211a. <b>The Tragic in Literature</b>	Usually offered every fourth year.  Mr. Engelberg		

Offered Tuesday 1:30-4:30 (Block S2)

Mr. Lansing

Literary Studies 301–306a and b. <b>Readings in Area Studies: Tutorials</b>	Usually offered every year.	Following is a list of selected undergraduate courses in each of the areas that constitute the Joint Program of Literary Studies, which may be of special interest to graduate students. For a full list of courses in each of the areas below and in European cultural studies, consult the undergraduate <i>Bulletin</i> under Departments of Germanic and Slavic Languages, Romance and Comparative Literature and the concentration in European cultural studies.
301a and b. <b>Comparative Literature. Readings in Comparative Texts</b>	Mr. Engelberg and Staff	<b>Comparative Literature</b>
302a and b. <b>French. Readings in French Texts</b>	Mr. Sachs and Staff	Comparative Literature 103b. (ENG 43b) <b>Madness and Folly in Renaissance Literature</b>  A study of the theme of madness and folly as exemplified by the major writers of the Renaissance, including Erasmus, Rabelais, Montaigne, Boccaccio, Ariosto, Shakespeare, Jonson and Cervantes.  Usually offered in odd years.  Mr. Lansing
303a and b. <b>German. Readings in German Texts</b>	Mr. Zohn and Staff	
304a and b. <b>Russian. Readings in Russian Texts</b>	Mr. Szulkin and Staff	Comparative Literature 104a. <b>At the Threshold of the Modern World</b>  The challenge to social constraints and the emergence of a new worldview in the West. How early modern literature treated issues of the self, social and sexual relations, women, religion and the philosophical spirit.  Usually offered in even years.  Ms. Harth
305a and b. <b>Spanish. Readings in Spanish Texts</b>	Ms. Fox and Staff	
306a and b. <b>Latin-American. Readings in Latin-American Texts</b>	Mr. Sánchez-Eppler and Staff	Comparative Literature 105b. <b>Sex and Sensibility in Pre- Revolutionary European Novels</b>  A study of the concept of human nature with specific attention to whether people can be educated to control or influence their erotic feelings and states of happiness. We shall trace the roles of family, money, personal identity and social norms in structuring the 18th-century novel. Focuses on the birth of the novel and Romanticism.  Usually offered in even years.  Mr. Gendzier
Literary Studies 351–357a and b. <b>Directed Research</b>	Open to advanced graduate students with the consent of the instructor and the chair of the Literary Studies Program.  Offered every year.	
351a and b. <b>Comparative Literature</b>	Mr. Engelberg and Staff	
352a and b. <b>French</b>	Mr. Sachs and Staff	Comparative Literature 107b. (ENG 118b) <b>The Age of Irony: European Modernism</b>  Examines the predominance of irony as a major mode of expression in modern art. Irony wears many masks: it often joins the tragic and the comic, deflates the pretentious and permits the author to manipulate not only the elements of the art but also its audience.  Usually offered in odd years.  Mr. Engelberg
353a and b. <b>German</b>	Mr. Zohn and Staff	
354a and b. <b>Russian</b>	Mr. Szulkin and Staff	
356a and b. <b>Spanish</b>	Ms. Fox and Staff	
357a and b. <b>Latin-American</b>	Mr. Sánchez-Eppler and Staff	Comparative Literature 150a. <b>The European Novel: Realism</b>  A study of major European novels of the 18th and 19th centuries that were especially influential in shaping a new tradition in the art of fiction: the novel of realism. Its development and evolution are traced through close reading of representative novels.  Usually offered in even years.  Mr. Sachs
Literary Studies 400d. <b>Dissertation Research</b>	Offered every year.  Staff	

Comparative Literature 185a. <b>Dickens and Dostoevsky</b>	Considers such issues as narrative, literary realism and the manipulation of the grotesque and the sublime in representative works of Dickens and Dostoevsky. Because Dostoevsky was an avid reader of Dickens, we shall address questions of influence, particularly with regard to their shared thematic interests.	French 164a. (ECS 108a) <b>Fact and Fiction in France</b>	Open to all students. Conducted in English with readings in English translation.  A study of how and why the French literary imagination has evoked real people and actual events from the French past in fictional compositions like the historical novel and the historical drama.
	Usually offered in even years.		Usually offered every third year.
	Ms. Miller		Will be offered Spring 1993.
Comparative Literature 193a. <b>Topics in New World Studies</b>	From the Ghost Dance to Liberation Theology, this course examines texts from and about this hemisphere that register conflict between Native and European imagining.	French 182b. (ECS 105b) <b>French Literature and Painting</b>	Open to all students. Conducted in English with readings in English translation.  Explores the interrelations between French art and literature by studying selected texts and corresponding visual images from the 19th and 20th centuries. Topics include: Romanticism, Realism, Symbolism, Surrealism and Cubism.
	Usually offered every third year.		Usually offered every third year.
	Messrs. Yglesias and Sánchez-Eppler		Last offered Fall 1990.
<b>French</b>			
French 132b. <b>The French Enlightenment</b>	The origins of Romanticism and Realism; modern notions of tolerance, the pursuit of happiness, feminism; conflicts between primitivism and progress, rationalism and experience, secular humanism and religious morality.	<b>German</b>	
	Usually offered in odd years.	German 110a. <b>Introduction to the Life and Works of Goethe</b>	Intensive study of many of Goethe's dramatic, lyric and prose works, including <i>Goetz</i> , <i>Werther</i> , <i>Faust I</i> and a comprehensive selection of poetry. Lectures and readings in German.
	Mr. Gendzier		Usually offered every third year.
French 134a. (ECS 104a) <b>The Ancien Régime</b>	Open to all students. Conducted in English with readings in English translation.  Relations between power and culture in the ancien régime. Louis XIV's Versailles: its spectacular visual and literary art. Dissolution of the old order in the 18th century, as seen in painting and literature.		Last offered Fall 1989.
	Usually offered every third year.		Staff
	Last offered Spring 1989.	German 120a. <b>Enlightenment to Idealism: Lessing, Lenz, Schiller</b>	A survey of the literary and intellectual movements—Enlightenment, Storm and Stress, Idealism—that eventually culminated in German Classicism. Emphasis will be on close analysis of representative works by Lessing, Lenz and Schiller. Lectures and readings in German.
	Ms. Harth		Usually offered every third year.
French 151a. (ECS 108a) <b>Confrontations with Modernity</b>	The Revolution of 1848 marks the definitive end of Romanticism and the inauguration of modernity. In Paris particularly, industrialization and urban renewal both reflected and anticipated radical changes in social, literary and artistic life. We study the breakdown of Romanticism and the establishment of modernity.	German 130b. <b>German Romanticism</b>	Last offered Fall 1990.
	Usually offered every third year.		Staff
	Last offered Spring 1991.		Studies literary and theoretical works of the Romantic movement and examines concurrent attitudes toward the German past, religion, philosophy, art, music and science. Lectures and readings in German.
	Mr. Kaplan		Usually offered every third year.
			Will be offered Spring 1992.
			Ms. Strenger

German 170b. (ECS 114b) <b>Starting from Zero: German Literature Since World War II</b>	Traces efforts of a new generation of writers to come to terms with the horrors of war and totalitarianism and with the materialism of the post-war "economic miracle." Literary investigation, supplemented by films, focuses on major writers and poets such as Grass, Borchert, Wolf, Böll, Celan, Dürrenmatt, Frisch, Weiss and Handke. Class discussions are in English.  Usually offered every third year.  Last offered Fall 1991.  Mr. Frey	<b>Russian</b>
German 190b (ECS 110b). <b>Vienna at the Turn of the Century</b>	The literary and cultural scene in imperial Vienna during the final decades of Franz Joseph's reign is explored through the works of representative writers. Attention is paid to the relationship between men of letters and innovative thinkers, artists and musicians.  Usually offered every third year.  Last offered Spring 1990.  Mr. Zohn	Russian 134b. (ECS 121b) <b>Chekhov</b>  Conducted in English with readings available in Russian for concentrators and in English translation.  Offers a detailed investigation of Chekhov's art emphasizing both the thematic and structural aspects of Chekhov's works. Attention is paid to methods of characterization, use of detail, narrative technique and the roles into which he casts his audience.  Usually offered in even years.  Ms. Miller
German 195b. (ECS 111b) <b>The Culture of the Weimar Republic</b>	Focusing on Berlin in the troubled but fecund twenties, this course explores literature and music, art and architecture, the Neue Sachlichkeit (new sobriety) in its various manifestations, the theater of Reinhardt and Piscator, the musical theater of Brecht and Weill, the satire of Tucholsky and Kästner and the fabled cabarets of Berlin.  Usually offered every third year  Last offered Spring 1992.  Mr. Zohn	Russian 137a. (ECS 118a) <b>The Heroine in Nineteenth-Century Russian Literature</b>  Conducted in English with readings available in Russian for concentrators and in English translation.  Examines questions of female representation and identity in readings from Pushkin, Lermontov, Gogol, Aksakov, Goncharov, Turgenev, Dostoevsky, Tolstoy and Chekhov.  Usually offered in odd years.  Ms. Miller
Italian 140a. (ECS 103a) <b>Dante's Divine Comedy</b>	Open to all students. Conducted in English with readings in English translation.  A close study of the entire poem— <i>Inferno</i> , <i>Purgatorio</i> , <i>Paradiso</i> —as a symbolic vision of reality reflecting the culture and thought—political, philosophical, theological—of the Middle Ages. Readings include two minor works, the <i>Vita Nuova</i> and <i>On Monarchy</i> .  Usually offered in odd years.  Mr. Lansing	Russian 146a. <b>Dostoevsky</b>  Conducted in English with readings available in Russian for concentrators and in English translation.  A comprehensive survey of Dostoevsky's life and works, with special emphasis on the major novels.  Usually offered in odd years.  Last offered Fall 1990.  Ms. Miller
		Russian 147b. (ECS 117b) <b>Tolstoy</b>  Conducted in English with readings available in Russian for concentrators and in English translation.  Studies the major short stories and novels of Leo Tolstoy against the backdrop of 19th-century history and with reference to 20th-century critical theory.  Usually offered in even years.  Ms. Miller
		Russian 148b. (THA 148b) <b>A Survey of Twentieth-Century Russian Theater: Chekhov to the Present</b>  Conducted in English with readings available in Russian for concentrators and in English translation.  History and development of Russian drama from Chekhov to the present.  Usually offered in odd years.  Mr. Szulkin

<p>Russian 149b. (ECS 106b)  <b>Twentieth-Century Russian Literature, Art and Theater</b></p>	<p>Conducted in English with readings available in Russian for concentrators and in English translation.</p> <p>Focuses on the three decades, 1900–1930, and their various artistic movements as reflected in literature, painting and theater. Explores the interrelationships between artistic movements and the political scene.</p> <p>Usually offered in even years.</p> <p>Mr. Szulkin</p>	<p>Spanish 161a.  <b>Modern Latin American Poetry</b></p> <p>Spanish 164b.          (Formerly SPAN 160b)  <b>Studies in Latin American Literature</b></p>	<p>Development of 20th-century poetics through the works of Dario, Vallejo, Neruda, Paz and others.</p> <p>Usually offered in even years.</p> <p>Messrs. Yglesias and Sánchez-Eppler</p> <p>A comparative and critical reading of main trends, ideas and cultural formations in Latin America.</p> <p>Usually offered every year.</p> <p>Mr. Sánchez-Eppler.</p>
<p>Spanish</p>			
<p>Spanish 125a.  <b>The Golden Age of Spain</b></p>	<p>The classics of Spain's Renaissance and Baroque literary genius. Readings include the <i>Abencerraje</i>, Cervantes's <i>Novelas Ejemplares</i>, Quevedo's <i>El Buscón</i>, the drama of Lope de Vega and Pedro Calderón de la Barca and poetry from the mystics to the <i>culteranistas</i>.</p> <p>Usually offered in odd years.</p> <p>Ms. Fox</p>	<p>Spanish 170a.  <b>Enlightenment to the Generation of 1898</b></p> <p>Spanish 182b. (ECS 111b)  <b>The Spanish Civil War</b></p>	<p>Readings from the Enlightenment to Unamuno, Baroja, Azorín, Machado and Ganivet.</p> <p>Usually offered in odd years.</p> <p>Mr. Mandrell</p> <p>Open to all students. Conducted in English with readings in English translation.</p> <p>Focuses on works illustrating the background of the Civil War, its development and influence on the fiction, art, film, theater, poetry and journalism of later decades.</p> <p>Usually offered in even years.</p> <p>Mr. Mandrell</p>
<p>Spanish 150a. (ECS 113a)  <b>Seventeenth-Century Drama</b></p>	<p>Open to all students. Conducted in English with readings in English translation.</p> <p>The major works, comic and tragic, of Spain's 17th-century dramatists: Cervantes's brief, witty farces, Tirso's creation of the "Don Juan" myth, Lope's palace and "peasant honor" plays and Calderón's Baroque masterpieces.</p> <p>Usually offered in odd years.</p> <p>Ms. Fox</p>		

# Mathematics

## Objectives

The graduate program in mathematics is designed primarily to lead to the Doctor of Philosophy degree. The formal course work gives the student a broad foundation for work in modern pure mathematics. An essential part of the program consists of seminars on a variety of topics of current interest in which mathematicians from Greater Boston often participate. In addition, the Brandeis-Harvard-MIT Mathematics Colloquium gives the student an opportunity to hear the current work of eminent mathematicians from all over the world.

## Admission

The mathematics department also supports a combined program with computer science, leading to the Ph.D. in mathematics and M.A. in theoretical computer science.

The general requirements for admission to graduate work in mathematics are the same as those for the Graduate School as a whole. The department has available a variety of fellowships and scholarships for well-qualified students. To be considered for such financial support the student should submit an application by February 15.

## Faculty

Professor  
**David Eisenbud**  
Chair:  
Commutative algebra. Algebraic geometry.

Professor  
**Mark Adler**  
Analysis: differential equations, completely integrable systems.

Professor  
**Maurice Auslander**:  
Noncommutative algebra.  
Homological algebra.

Professor  
**Edgar H. Brown, Jr.**:  
Algebraic topology, manifolds, cobordism, surgery, homotopy theory.

Professor  
**David A. Buchsbaum**:  
Commutative algebra.  
Homological algebra.

Professor  
**Ira Gessel**:  
Theoretical computer science, enumerative combinations.

Professor  
**Michael Harris**:  
Arithmetic of Abelian varieties over number fields.  
Class field theory.  
P-adic representation theory. L-functions.

Professor  
**Kiyoshi Igusa**:  
Algebraic K-theory.

Professor  
**Harold I. Levine**:  
Differential topology.  
Singularities of differential maps.

Professor  
**Jerome P. Levine**:  
Differential topology. Knot theory and related algebra.

Professor  
**Teruhisa Matsusaka**:  
Algebraic geometry.  
Classification and deformations of algebraic varieties.

Professor  
**Alan L. Mayer**:  
Classical algebraic geometry and related topics in mathematical physics.

Professor  
**Paul B. Monsky**:  
Number theory.  
Arithmetic algebraic geometry.

Professor  
**Richard S. Palais**:  
Nonlinear partial differential equations.  
Calculus of variations in geometry of mathematical physics.  
Transformation groups.

Professor  
**Gerald W. Schwarz**  
Graduate Advisor:  
Algebraic groups.  
Transformation groups.

Visiting Professor  
**Pierre van Moerbeke**:  
Stochastic processes.  
Korteweg-deVries equation. Toda lattices.

Associate Professor  
**Daniel Ruberman**:  
Geometric topology: knots and low dimensional manifolds.

Associate Professor  
**Kari Vilonen**:  
Intersection homology. Perverse sheaves.  
D-modules.

Assistant Professor  
**Kenji Matsuki**:  
Algebraic geometry, classification of higher dimensional varieties.

## Degree Requirements

### Master of Arts

1. One year's residence as a full-time student.
2. Successful completion of an approved schedule of courses.
3. Satisfactory performance in the basic courses in algebra, analysis, topology and geometric analysis—or equivalent examinations [see Program of Study].
4. Proficiency in reading French, German or Russian.

### Doctor of Philosophy

#### Program of Study.

The normal first year of study consists of MATH 101a and b, 111a and b and 121a and b. In exceptional circumstances and only with the permission of the graduate advisor, a student with superior preparation may omit one or more of these courses and elect higher level courses instead. In this case he/she must take an examination in the equivalent material during the first year. The second year's work will normally consist of MATH 110a and higher level courses in addition to preparation for the qualifying examinations described below and participation in the second-year seminar.

	Upon completion of the qualifying examinations, the student will choose a dissertation advisor and begin work on a thesis. This should be accompanied by advanced courses and seminars.	<b>Combined Doctor of Philosophy in Mathematics and Master of Arts in Theoretical Computer Science</b>	Mathematics Requirements
Residence Requirement.	The minimum residence requirement is three years.		1. A normal graduate program, including the usual first year courses (or placement out) and the second year seminar.
Language Requirement.	Proficiency in reading two of French, German or Russian.		2. One semester combinatorics and two other designated courses, e.g., one semester numerical analysis and one semester mathematical statistics (or a second semester combinatorics and one of the above); all three graduate-level courses.
Qualifying Examination.	The qualifying examination consists of two parts: a major examination and a minor examination. Both are normally taken in the latter part of the second year but may occasionally be postponed until early in the third year. For the major examination the student will choose a limited area of mathematics, e.g., differential topology, several complex variables, or ring theory—and a major examiner from among the faculty. Together they will plan a program of study and a subsequent examination in that material. The aim of this study is to prepare the student for research toward the Ph.D. The minor examination will be more limited in scope and less advanced in content. The procedures are similar to those for the major examination, but its subject matter should be significantly different.		3. Major exam in mathematics and language exams.
			4. Ph.D. thesis in mathematics.
		Computer Science Requirements	1. Knowledge of COSCI 21a,b (elementary programming, elementary data structures and elementary programming methodology) and COSCI 31a (machine or organization, assembly language, etc.).
			2. The following four upper-level undergraduate courses, or placement out (which requires course credit from another school approved by the computer science department): COSCI 45 b, Compiler Design; COSCI 46a, Operating Systems; COSCI 68a, Algorithms; COSCI 88a, Theory of Computation.
			3. At least four approved graduate-level courses offered by the computer science department.
			4. Minor exam in computer science.
Dissertation and Defense.	The doctoral degree will be awarded only after the submission and acceptance of an approved dissertation and the successful defense of that dissertation.		

## Courses of Instruction

Mathematics 101a. <b>Algebra I</b>	Groups, rings, modules, Galois theory, affine rings and rings of algebraic numbers. Multi linear algebra. The Wedderburn theorems. Other topics as time permits.  Usually offered every year.  Mr. Auslander	Mathematics 110b. <b>Introduction to Lie Groups</b>	The correspondence between Lie groups and Lie algebras. Exponential map, homomorphisms, Lie subgroups and homogeneous spaces. Representations of compact Lie groups.  Usually offered every year.  Mr. Palais
Mathematics 101b. <b>Algebra II</b>	A continuation of Mathematics 101a.  Usually offered every year.  Staff	Mathematics 111a. <b>Real Analysis</b>	Measure and integration. LP Spaces, Banach Spaces and Hilbert Spaces, Radon Nikodyn, Riesz representation and Fubini theorems. Fourier transforms.  Usually offered every year.  Mr. Ruberman
Mathematics 110a. <b>Geometric Analysis</b>	Manifolds, tensor bundles, vector fields and differential forms. Frobenius theorem. Integration, Stoke's theorem and deRham's theorem.  Usually offered every year.  Mr. Palais	Mathematics 111b. <b>Complex Analysis</b>	The Cauchy integral theorem, calculus of residues and maximum modulus principle. Harmonic functions. The Riemann mapping theorem and conformal mappings. Other topics as time permits.  Usually offered every year.  Mr. Mayer



Mathematics 121a. <b>Topology I</b>	<p>Fundamental group and covering spaces. Simplicial complexes and homology and cohomology theory, with applications.</p> <p>Usually offered every year.</p> <p>Mr. Schwarz</p>	Mathematics 204a. <b>TA Practicum</b>	<p>Teaching elementary mathematics courses is a subtle and difficult art, involving many skills besides those that make mathematicians good at proving theorems. This course will focus on the development and support of teaching skills. Just as in learning to perform music, individual attention from a skilled coach can be enormously helpful in improving teaching. The main feature of the course will thus be individual observation of the graduate student by the Practicum teacher, who will provide written criticism of, and consultation on, classroom teaching practices.</p> <p>Usually offered every year.</p> <p>Staff</p>
Mathematics 121b. <b>Topology II</b>	<p>Continuation of MATH 121a. Manifolds and orientation, cup and cap products and Poincaré duality. Other topics as time permits.</p> <p>Usually offered every year.</p> <p>Mr. Brown</p>		
Mathematics 200a. <b>Second-Year Seminar</b>	<p>Usually offered every year.</p> <p>Mr. Schwarz</p>	Mathematics 211a. <b>Topics in Differential Geometry and Analysis</b>	<p>Usually offered every year.</p> <p>Mr. Adler</p>
Mathematics 201a. <b>Topics in Algebra</b>	<p>Introduction to some field of algebra. Topic changes each year.</p> <p>Usually offered every year.</p> <p>Mr. Auslander</p>	Mathematics 211b. <b>Topics in Differential Geometry and Analysis</b>	<p>Usually offered every year.</p> <p>Mr. Adler</p>
Mathematics 201b. <b>Topics in Algebra</b>	<p>Introduction to some field of algebra. Topic changes each year.</p> <p>Usually offered every year.</p>	Mathematics 221a. <b>Topology II</b>	<p>Elementary homotopy theory, fibrations, obstruction theory and spectral sequences.</p> <p>Usually offered every year.</p> <p>Mr. Ruberman</p>
Mathematics 202a. <b>Algebraic Geometry I</b>	<p>Varieties and schemes. Cohomology Theory. Curves and surfaces.</p> <p>Usually offered every year.</p> <p>Mr. Schwarz</p>	Mathematics 221b. <b>Topology II</b>	<p>Differential topology: transversality and characteristic classes. Geometric definitions of cobordism and computation via homotopy theory. Other topics as time permits.</p> <p>Usually offered every year.</p> <p>Mr. J. Levine</p>
Mathematics 203a. <b>Number Theory</b>	<p>Topics include basic algebraic number theory (number fields, Ramification theory, class groups, Dirichlet unit theorem), zeta and L-functions (Riemann-function, Dirichlet L-functions, primes in arithmetic progressions, prime number theorem), class field theory, modular functions and modular forms, cyclotomic fields and automorphic forms on Adele groups.</p> <p>Usually offered every year.</p> <p>Will not be offered Fall 1992.</p>	Mathematics 250a. <b>Riemann Surfaces</b>	<p>An introductory course on Riemann surfaces.</p> <p>Usually offered in even years.</p> <p>Mr. van Moerbeke</p>
Mathematics 203b. <b>Number Theory</b>	<p>A continuation of Mathematics 203a.</p> <p>Usually offered every year.</p> <p>Mr. Monsky</p>	Mathematics 291d. <b>Fellowship of the Ring—Seminar in Commutative Algebra</b>	<p>Research seminar, not normally taken for credit.</p> <p>Usually offered every year.</p> <p>Staff</p>
		Mathematics 293d. <b>Topology Seminar</b>	<p>Research seminar, not normally taken for credit.</p> <p>Usually offered every year.</p> <p>Staff</p>

Mathematics 294d. <b>Differential Geometry Seminar</b>	Research seminar; not normally taken for credit.  Usually offered every year.  Will not be offered in 1992-93.	Mathematics 311b. <b>Advanced Topics in Analysis</b>	Usually offered every year.  Mr. H. Levine
Mathematics 295d. <b>Algebraic Geometry Seminar</b>	Research seminar; not normally taken for credit.  Usually offered every year.  Staff	Mathematics 321a. <b>Topology III</b>	Usually offered every year.  Mr. J. Levine
Mathematics 296d. <b>Seminar in Artin Rings and Representation Theory</b>	Research seminar; not normally taken for credit.  Usually offered every year.  Staff	Mathematics 321b. <b>Topology III</b>	A continuation of MATH 321a.  Usually offered every year.  Will not be offered Spring 1993.
Mathematics 297d. <b>Number Theory Seminar</b>	Research seminar; not normally taken for credit.  Usually offered every year.  Staff	Mathematics 324a. <b>Advanced Topics in Lie Groups and Representation Theory</b>	Usually offered in odd years.  Will not be offered Fall 1992.
Mathematics 299a and b. <b>Readings in Mathematics</b>	Usually offered every year.  Staff	Mathematics 326a. <b>Topics in Mathematics</b>	An advanced course on a topic chosen each year by the department.  Usually offered every year.  Mr. Eisenbud
Mathematics 301a. <b>Advanced Topics in Algebra</b>	Usually offered in even years.  Mr. Vilonen	Mathematics 326b. <b>Topics in Mathematics</b>	A continuation of MATH 326a.  Usually offered every year.  Mr. Eisenbud
Mathematics 302a. <b>Topics in Algebraic Geometry</b>	Usually offered in even years.  Mr. Buchsbaum	Mathematics 399a and b. <b>Readings in Mathematics</b>	Usually offered every year.  Staff
Mathematics 302b. <b>Topics in Algebraic Geometry</b>	Usually offered in even years.  Will not be offered Spring 1993.	All graduate courses will have organizational meetings the first week of classes.	
Mathematics 311a. <b>Advanced Topics in Analysis</b>	Usually offered every year.  Mr. Palais	Mathematics 401d. <b>Research</b>	Independent research for the Ph.D. degree.  Specific sections for individual faculty members as requested.  Staff

# Music

## Objectives

The graduate program in music, leading to the degrees of Master of Fine Arts and Doctor of Philosophy, is designed to provide a command of the craft of composition and an understanding of the nature, structural basis and historical development of music.

The following general fields of study are offered in music:

1. **Composition and Theory.** This program, emphasizing composition and supported by studies in theory and analysis, leads to the degrees of Master of Fine Arts and Doctor of Philosophy.

2. **Musicology.** In this program, students may elect to emphasize or concentrate in one of two different programs of study, **music history or theory and analysis.** In the **music history** program, a variety of techniques and methodologies, including source studies, style development and historiography are applied to different repertoires and historical problems. The program in **theory and analysis** features works in the history of theory from the medieval period to the present, as well as analytic work in the context of theory construction and the evaluation of tonal as well as contemporary analytic models. This program leads to the degrees of Master of Fine Arts and Doctor of Philosophy.

Students must specialize in one of these areas, but composers are expected to undertake some work in music history and historians to acquire some competence in tonal writing.

## Admission

Only a limited number of students are accepted. The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

Applicants for study in **musical composition and theory** are required to submit, in addition to a transcript of their undergraduate records, evidence of qualification in the form of examples of original work in musical composition and advanced work in musical theory. Applicants for admission in **musicology** should submit examples of their prose writing on music as evidence of their ability to handle the language and specialized vocabulary. Undergraduate theses or term papers are satisfactory. Musicology applicants wishing to specialize in **theory and analysis** should also submit examples of advanced work in musical theory. This work should be submitted together with the formal application for admission.

All applicants are expected to have some proficiency at the piano or an orchestral instrument. Information about this should be furnished when making formal application. A departmental written test in basic musicianship and analysis will be sent to all applicants. Deadline for applications is February 15.

Admission is granted for one academic year at a time. Readmission will be refused in cases where students have not demonstrated a capacity for acceptable graduate work.

## Faculty

Professor  
**Robert L. Marshall,**  
Chair

Associate Professor  
**Eric Chafe**

Assistant Professor  
**Eric D. Chasalow**

Lecturer  
**David Kopp**

Performing  
Artists-in-  
Residence  
**Sandra Dackow**  
**Richard Ford**  
**Sarah Mead**

Lydian String  
Quartet  
**Judith Eissenberg**  
**Mary Ruth Ray**  
**Rhonda Rider**  
**Daniel Stepner**

Professor  
**Martin Boykan**

Associate Professor  
**Margot Fassler**

Associate Professor  
**James D. Olesen**

Professor  
**Allan R. Keiler**

Associate Professor  
**Jessie Ann Owens**

Professor  
**Yehudi Wyner**

## Degree Requirements

### Master of Fine Arts

#### Language Requirements.

Candidates for the master's degree in **Musical Composition and Theory** must possess a reading knowledge of one language—French, German or Italian.

Candidates for the master's degree in **Musicology** must possess a reading knowledge of French and German. Upon petition to the department, substitutions for French are considered.

Foreign language course credits do not in themselves constitute fulfillment of the language requirements for advanced degrees. All candidates must pass language examinations set or approved by the music faculty and offered periodically during the academic year. Students are urged to take these examinations at the earliest feasible date. **Musicology** students should pass the German reading examination by the end of their first year in residence. In case of failure, an examination may be taken more than once.

#### Instrumental Proficiency.

At least moderate proficiency at the piano is required of all candidates for advanced degrees.

#### Residence Requirements.

Twelve term courses at the graduate level, completed with distinction, and a thesis are required of all candidates.

The department normally allows credit for no more than two term courses taken at another institution.

In general, the program of course work is completed in two academic years. It is suggested that students pursue no more than three full courses in any one year.

#### For candidates in musicology.

The musicology program consists of three categories of courses: (1) proseminars in music history, (2) seminars in music history and (3) seminars in history of theory. Within each category courses are offered in the six principal historical periods of Western music from the Middle Ages to the 20th century (medieval, Renaissance, baroque, classical, Romantic, modern). The proseminars survey an array of topics illustrating the representative avenues of research and methodological approaches. Seminars typically concentrate on a single topic. Courses in analysis similarly belong to three categories: (1) proseminars and seminars in tonal analysis, (2) proseminars and seminars in nontonal analysis and (3) advanced analysis. **Musicology** students are required to take (1) at least one course in each of five historical periods, in any combination of proseminars or seminars; (2) at least two terms of analysis; (3) the proseminar in composition or its equivalent.

#### For candidates in composition.

Composition students are required to take (1) proseminars and seminars in composition, (2) proseminars and seminars in tonal and nontonal analysis and (3) a proseminar in music history or its equivalent.

#### Examinations.

Before the end of their second year of study, candidates for the degree of Master of Fine Arts must demonstrate their competence by means of a written general examination.

The following timetable is suggested for major general examinations: **For candidates in composition**, the composition examination may be taken during the first year and repeated if necessary in the second; the analysis portion of the examination is normally taken during the second year. Examinations may be repeated in the third year only in the case of a student not proceeding beyond the master's degree. **For candidates in musicology**, major general examinations must be passed by the end of the second year; they may be repeated in the third year at the discretion of the faculty.

#### Thesis.

Candidates for the degree of Master of Fine Arts in Music are required to submit a thesis. **For candidates in musical composition**, this consists of a musical composition, its scope to be approved by the music faculty. **For candidates in musicology**, it is an analytical or historical study on a topic acceptable to the music faculty. Candidates in the history of music may submit, in lieu of a separate thesis, revised copies of two seminar papers that have been certified by the seminar instructor and at least one other faculty member as demonstrating a high degree of competence in research and writing. Two copies of the thesis or composition must be submitted to the department chairman in final form no later than December 1 for a February degree or April 1 for a May degree.

<b>Doctor of Philosophy</b>	Admission to the doctoral program is normally granted at the end of the second year of residence and is determined by the student's performance in course work and general examinations. For candidates in music history, acceptance may be deferred pending repetition of portions of the major examinations.	<b>Instrumental Proficiency.</b>	At least moderate proficiency at the piano is required of all candidates.
<b>Residence Requirements.</b>	The minimum residence requirement is three years. A minimum of 16 term courses at the graduate level, completed with distinction, are required of all candidates.	<b>Examinations.</b>	Candidates for the Ph.D. degree have no additional written examination requirements in their major field beyond those for the M.F.A. In the minor field, doctoral-level examinations may, if desired, be replaced by the option of an additional term of course work completed with distinction. For candidates in composition and theory, a term of Music 200 or 299 is suggested; for candidates in history, an additional term of Music 227.
	In general, the program of course work will be completed in three academic years.		After meeting their language, residence and general examination requirements, candidates for the Ph.D. must pass a special oral qualifying examination. Under exceptional circumstances the oral examination may be waived.
	Applicants who have done graduate work elsewhere may apply for transfer of credit for such work; a maximum of one year of residence may be granted.		
	Candidates for the doctoral degree in <b>musicology</b> normally take, in addition to two one-term courses [proseminar or seminar] beyond those taken for the master's degree, two terms of dissertation research (Music 401). This course may be taken with one or more instructors. In general, part of the time spent during the third year on dissertation preparation involves discussions with several faculty members.	<b>Dissertation.</b>	Candidates for the degree of Doctor of Philosophy in Composition must submit an original musical composition and a thesis on a theoretical or analytical subject. Candidates for the degree of Doctor of Philosophy in Musicology must submit a dissertation on a historical, theoretical or analytical subject. Two copies of the doctoral dissertation, as well as an abstract of the dissertation not to exceed 350 words in length, should be submitted to the department or committee chair no later than December 1 for a February degree and April 1 for a May degree of the academic year in which the Ph.D. degree is to be conferred.
<b>Language Requirements.</b>	Candidates for the doctoral degree in <b>composition</b> normally take, in addition to courses taken for the master's degree, two terms of the seminar in composition and two seminars in advanced analysis.		Written dissertations should demonstrate the competence of the candidate as an independent investigator, his or her critical ability and effectiveness of expression. Upon completion of the dissertation, the candidate is expected to defend it in a Final Oral Examination.
	Candidates for the doctoral degree in <b>musicology</b> must possess a reading knowledge of French and German. Upon petition to the department, substitutions for French are considered. Candidates in composition and theory must possess a reading knowledge of one language approved by the department.		

## Courses of Instruction

Except in the rarest circumstances, graduate credit is not allowed for courses numbered below Music 165.

The program encourages those students with a special interest in literary studies to consult the seminar offerings in the Joint Program of Literary Studies, especially the seminar in Literary Theory offered each fall. They should also consult the chair of JPLS for the suitability of enrolling in certain 100 level courses in comparative literature, the European literatures or European cultural studies. In all cases, students should initially consult the music program's Graduate Advisor.

### Music 151b. Popular Musical Theater in Late Nineteenth- and Early Twentieth-Century America

Focuses on three musical theatrical traditions: the Yiddish theater in America, Afro-American vaudeville blues and the Irish vaudeville of Harrigan and Hart. The theme of "blues" or pathos as found in each of the traditions provides a center of interest and point of comparison. Special attention is given to the ways in which each group preserved its sense of identity through popular theater.

Usually offered every third year.

Will be offered Spring 1993.

Ms. Fassler

<b>Music 195a.</b> <b>Electronic Music</b> <b>Composition</b>	<p>The sequential study of a wide array of studio techniques, from classic analog to digital, through individual projects. Emphasizes the development of skills that integrate the studio into a powerful musical instrument. Related topics include the history of the medium, acoustics and recording production.</p> <p>Usually offered every year.</p> <p>Mr. Chasalow</p>	<b>Music 204b.</b> <b>Proseminar in</b> <b>Music of the</b> <b>Eighteenth Century</b>	<p>In addition to tracing the evolution of the principal genres (e.g., sonata, symphony, string quartet, opera buffa, opera seria), the course assesses the historical position of the major figures from Bach and Handel to Mozart and Haydn. Particular emphasis is placed on understanding the phenomenon of the "style shift" from baroque to classical style.</p> <p>Usually offered in odd years.</p> <p>Mr. Marshall</p>
<b>Music 199a.</b> <b>Chamber Music</b> <b>Workshop</b>	<p>An intensive workshop for preprofessional and adult amateur musicians. Daily rehearsals, masterclasses and lecture demonstrations. Student concerts on the weekends. Prerequisite: audition tape. Preference given to preformed groups.</p> <p>Usually offered every summer.</p> <p>Lydian String Quartet</p>	<b>Music 205a.</b> <b>Proseminar in</b> <b>Music of the</b> <b>Nineteenth Century</b>	<p>A broad study of the principal stylistic developments and musical genres of the 19th century. Topics include significance of Beethoven on the musical thinking of the 19th century, the rise of national schools of composition, especially opera, and program music and its aesthetic and compositional bases.</p> <p>Usually offered every third year.</p> <p>Mr. Keiler</p>
<b>Music 199b.</b> <b>Problems in the</b> <b>Interpretation and</b> <b>Performance of</b> <b>Chamber Music</b>	<p>Projects in the analysis and performance of select works of chamber music.</p> <p>Usually offered in odd years.</p> <p>Staff</p>	<b>Music 206b.</b> <b>Proseminar in the</b> <b>Music of the</b> <b>Twentieth Century</b>	<p>An examination of the music of the 20th century from a variety of viewpoints: historical, theoretical and analytical. Topics include several of the following: tonality and atonality in Germany and Austria, 1899-1923; 12-tone music and serialism; the French and Russian avant-garde; neo-classicism; experimental music in America; minimalism, neo-Romanticism and eclecticism and recent music.</p> <p>Usually offered in even years.</p> <p>Staff</p>
<b>Music</b> <b>Colloquium</b>	<p>Discussions of special topics led by the faculty and occasional guests. Some of the sessions include performances of new works. Required of all graduate students. <i>Noncredit</i>.</p> <p>Usually offered every year.</p> <p>Staff and Visiting Lecturers</p>		
<b>Music 200b.</b> <b>Proseminar in</b> <b>Medieval Music</b>	<p>Broad coverage of the principal topics and research techniques of medieval music; structure of the liturgy, chant notation, oral transmission theory, tropes and sequences, polyphonic notation and rhythmic modes. Introduction to standard bibliographic tools including editions, facsimiles, microfilms, liturgical books and reference books.</p> <p>Usually offered every third year.</p> <p>Ms. Fassler</p>	<b>Music 208b.</b> <b>Problems in</b> <b>Cultural</b> <b>Historiography</b>	<p>Usually offered in odd years.</p> <p>Mr. Keiler</p>
<b>Music 201a.</b> <b>Proseminar in</b> <b>Music of the</b> <b>Renaissance</b>	<p>Usually offered in even years.</p> <p>Ms. Owens</p>	<b>Music 209a.</b> <b>Seminar in</b> <b>Psychoanalysis and</b> <b>Biography: The</b> <b>Psychoanalytic</b> <b>Study of the Artist</b>	<p>The foundations of psychoanalytic theory in its contribution to the understanding of the artist. Topics include the relation of the artist to his work as seen from the perspective of psychoanalysis and creativity and the creative process. In addition to the pioneering work of Freud, Rank and Kris, more contemporary issues in psychoanalytic theory, for example, ego psychology, are explored. The possible directions of applied psychoanalysis for musicology are considered.</p> <p>Usually offered every third year.</p> <p>Mr. Keiler</p>
<b>Music 202b.</b> <b>Proseminar in</b> <b>Music of the</b> <b>Baroque</b>	<p>Usually offered every third year.</p> <p>Mr. Chafe</p>		
		<b>Music 210a.</b> <b>Seminar in Music of</b> <b>the Middle Ages</b>	<p>Usually offered in even years.</p> <p>Ms. Fassler</p>

Music 211d. <b>Seminar in Renaissance Musical Sources</b>	Usually offered in odd years.  Ms. Owens	Music 221d. <b>Proseminar in Schenkerian Analysis</b>	The systematic study of the approach to music analysis developed by Heinrich Schenker. The basic concepts of diminution, voice leading, prolongation and structural level are studied and their significance is applied to smaller examples as well as the principal longer forms of tonal music. The student gradually masters all of the notational techniques of linear analysis as they are applied to the tonal repertory.  Usually offered in even years.  Mr. Keiler
Music 212a. <b>Seminar: Theory of Modality and Tonality</b>	An investigation of various concepts related to tonal organization (such as mode, key, system and solmization) based on a close reading of theoretical treatises from the 15th through the 17th centuries.  Usually offered in even years.  Ms. Owens		
Music 213b. <b>Seminar in Music of the Renaissance</b>	Usually offered in even years.  Ms. Owens	Music 223d. <b>Seminar: The Art Song in America, 1860–1920</b>	From the mid 19th century through the opening decades of the 20th century, American composers produced vast numbers of accompanied songs for solo voice. Focuses primarily on the songs of New England composers, placing this varied repertory in its historical context through research into local archives and the rich collections of printed music found in regional libraries.  Usually offered every third year.  Ms. Fassler
Music 214b. <b>Seminar: Baroque Topics</b>	An in-depth investigation of one selected topic in baroque music. Topics include the Monteverdi madrigals, 17th-century instrumental music and the Bach Passions. The methodology employed varies according to the subject; emphasis is given to more recent research in most cases.  Usually offered every third year.  Mr. Chafe	Music 224d. <b>Seminar in Medieval Music Theory</b>	Usually offered every third year.  Ms. Fassler
Music 215b. <b>Seminar: The Bach Sources</b>	Usually offered in even years.  Mr. Marshall	Music 225a or b. <b>Seminar in Baroque Theory</b>	Usually offered every third year.  Staff
Music 216d. <b>Seminar: The Origins of the "Classical Style"</b>	Usually offered every third year.  Mr. Marshall	Music 226a. <b>History and Literature of Western Music Theory: Baroque to 1850</b>	Usually offered in odd years.  Mr. Keiler
Music 217a. <b>Seminar: Recent Developments in Mozart Research</b>	Assesses the current state of the several areas of Mozart research: biography, source studies, work analysis, performance practice and the composer's music-historical position in the development of the "classical style."  Usually offered every third year.  Mr. Marshall	Music 226b. <b>History and Literature of Western Music Theory: 1850 to the Present</b>	Usually offered in even years.  Mr. Keiler
Music 218b. <b>Seminar in the Music of the Nineteenth Century</b>	Usually offered in even years.  Mr. Keiler	Music 227a. <b>Proseminar in Theory and Composition</b>	Technical projects in theory and composition; baroque counterpoint; canon, fugue and chorale prelude.  Usually offered every year.  Staff
Music 219a. <b>Seminar: Wagner</b>	Usually offered in even years.  Mr. Chafe	Music 227b. <b>Proseminar in Theory and Composition</b>	Composition in classical forms with particular emphasis on sonata form.  Usually offered every year.  Staff
Music 220a. <b>Seminar: The German Post-Romantic Period</b>	Usually offered in odd years.  Mr. Chafe		

<b>Music 228a. Seminar in Twentieth-Century Techniques</b>	<p>Written exercises utilizing some of the newer compositional techniques developed in the 20th century.</p> <p>Usually offered in odd years.</p> <p>Staff</p>	<b>Music 270b. Seminar in Serial Music</b>	<p>A continuation of MUS 270a.</p> <p>Usually offered in odd years.</p> <p>Mr. Boykan</p>
<b>Music 231a. Performance and Analysis</b>	<p>Usually offered in odd years.</p> <p>Mr. Wyner</p>	<b>Music 291b. Advanced Orchestration</b>	<p>Scoring as a means of projecting a musical idea; questions of phrasing, emphasis and musical pacing. Analysis of scores as well as written exercises. Live performances whenever possible.</p> <p>Usually offered in even years.</p> <p>Staff</p>
<b>Music 233a. Analysis of Tonal Music</b>	<p>Detailed examination of a few complete works of the tonal repertoire (from Bach to Brahms).</p> <p>Usually offered in even years.</p> <p>Staff</p>	<b>Music 292a and b. Seminar in Composition</b>	<p>Group meetings and individual conferences. Opportunities for the performance of student works is provided.</p> <p>Usually offered every year.</p> <p>Specific sections for individual faculty members as requested.</p> <p>Staff</p>
<b>Music 233b. Analysis of Extended Tonal Music</b>	<p>Works in this course are selected from the late 19th and 20th centuries. Composers such as Wagner, Wolf, Debussy, early Schoenberg, Bartok and Stravinsky.</p> <p>Usually offered in even years.</p> <p>Staff</p>	<b>Music 299a. Individual Research and Advanced Work</b>	<p>Usually offered every year.</p> <p>Staff</p>
<b>Music 234a. Topics in Analysis of Early Twentieth- Century Music</b>	<p>Detailed examination of selected works composed between 1908 and 1951.</p> <p>Usually offered in odd years.</p> <p>Staff</p>	<b>Music 299b. Individual Research and Advanced Work</b>	<p>Usually offered every year.</p> <p>Staff</p>
<b>Music 234b. Topics in Analysis of Contemporary Music</b>	<p>Detailed examination of selected works since 1951.</p> <p>Usually offered in odd years.</p> <p>Staff</p>	<b>Music 401d. Dissertation Research</b>	<p>Specific sections for individual faculty members as requested.</p> <p>Required of all doctoral candidates.</p> <p>Staff</p>
<b>Music 246a. Stravinsky</b>	<p>Usually offered every fourth year.</p> <p>Staff</p>	<b>Electronic Music Studios</b>	<p>Two studios with facilities for the composition of electronic music are available to qualified student composers.</p> <p>Director: Mr. Chasalow</p>
<b>Music 270a. Seminar in Serial Music</b>	<p>Twelve-tone procedures in Schoenberg, Webern and more recent composers. Primarily concerned with the realization of serial technique in specific compositions. Attention is focused on questions of articulation, phrasing, form and harmonic distinction.</p> <p>Usually offered in odd years.</p> <p>Mr. Boykan</p>		



# The Philip W. Lown School of Near Eastern and Judaic Studies

The Lown School is the center for all programs of teaching and research in the areas of Judaic studies, Ancient Near Eastern studies and Islamic and Modern Middle Eastern studies. The school includes the Department of Near Eastern and Judaic Studies, the Hornstein Program for Jewish Communal Service and the Cohen Center for Modern Jewish Studies. The Department of Near Eastern and Judaic Studies offers academic programs in the major areas of its concern. The Hornstein Program is a professional training

program leading to the Master of Arts degree in Jewish communal service. It makes full use of academic resources of the Department of Near Eastern and Judaic Studies and other departments in the University. The Cohen Center for Modern Jewish Studies conducts, and serves to stimulate, research and teaching in contemporary Jewish studies, primarily in the field of American Jewish studies.

## Near Eastern and Judaic Studies

### Objectives

The graduate program in Near Eastern and Judaic Studies, leading to the Doctor of Philosophy degree, is designed to train scholars and teachers in various areas of Near Eastern and Judaic Studies. On the M.A. level, the department offers both general and specialized programs. A three year double master's program in Jewish Communal Service and NEJS is available to students of the Hornstein Program.

### Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this program.

### Faculty

Professor  
**Jonathan Sarna:**  
Chair:  
American Jewish  
history.

Distinguished  
Professor  
**Krister Stendahl**  
Christian studies.

Professor  
**Trzvi Abusch**  
Director, Graduate  
Studies: Languages  
and cultures of  
Ancient  
Mesopotamia.  
Ancient Near  
Eastern religions.

Professor  
**Marvin Fox**  
Director of the  
Lown School:  
Jewish philosophy.  
Rabbinic thought.  
Modern Jewish  
thought.

Professor  
**William Johnson**  
Albert V.  
Danielson  
Professor of  
Philosophy and  
Christian thought.

Professor  
**Alan Mintz**  
Hebrew literature.

Visiting Professor  
**Antony Polonsky**  
East European  
social and  
intellectual history.

Professor  
**Benjamin C. I.  
Ravid**  
Medieval and early  
modern Jewish  
history.

Professor  
**Jehuda Reinharz**  
Modern Jewish  
history. History of  
Zionism.

Professor  
**Bernard Reisman:**  
Jewish communal  
service.

Associate Professor  
**Marc Brettler:**  
The Bible and its  
interpretation.

Associate Professor  
**Reuven Kimelman:**  
Talmud. Midrash.  
Liturgy.

Associate Professor  
**Avigdor Levy**  
Middle Eastern  
studies.

Adjunct Associate  
Professor  
**Ruth Gollan**  
Modern Hebrew  
language.

Assistant Professor  
**David Wright:**  
Biblical studies.  
Languages and  
literature of the  
Ancient Near East.

Lecturer  
**Charles Cutter:**  
Jewish  
bibliography.

### Program of Study

Among the main fields in the area of Near Eastern and Judaic Studies in which courses are being given in the Graduate School are: Bible and Ancient Near East Studies, Early Rabbinical Literature, Jewish History, Jewish Philosophy and Thought, The Modern Middle East, Contemporary Jewish Studies and Modern Hebrew Literature. The program regularly offers additional courses in related fields.

## Degree Requirements

### Master of Arts

Residence Requirements.	Ordinarily, two years of full-time residence are required at the normal course rate of seven courses each academic year.
Language Requirements.	All candidates are required to demonstrate proficiency in Hebrew or Arabic. Candidates in course for the Ph.D. degree will also be required to demonstrate proficiency in one European language, normally either French or German.
Comprehensive Examination.	All candidates for the Master of Arts degree are required to pass a comprehensive examination.
Thesis.	Students may petition to write, or in the field of Modern Middle East, may be required to write, a thesis, which must be submitted no later than April 1 of the year in which the degree is to be conferred. A thesis is not required in other fields in the Department of Near Eastern and Judaic Studies.

### Doctor of Philosophy

Residence Requirements.	Three years of full-time residence are required at the normal rate of seven term courses each academic year. Students who enter with graduate credit from other recognized institutions may apply for transfer credit. By rule of the Graduate School, a maximum of one year of credit may be accepted toward the residence requirement on the recommendation of the chair of the program.
Language Requirements.	Candidates are required to establish competence in Hebrew or Arabic as well as in two European languages, normally French and German. Additional languages may be required as necessary for research in each individual candidate's field.
Comprehensive Examinations.	All candidates for the Ph.D. degree are required to pass three comprehensive examinations. The requirements vary from field to field. The details can be obtained from the department office.
Dissertation and Defense.	The dissertation must demonstrate the candidate's thorough knowledge of the field and competence in independent research and must constitute an original contribution to knowledge. Two copies of the dissertation, one of which must be the original typescript, are to be deposited in the office of the program chair no later than April 1 of the year in which the candidate expects to earn the degree. The student must successfully defend the dissertation at a Final Oral Examination.

## Courses of Instruction

NEJS 101a. Introductory Literary Arabic	A first course in literary Arabic, covering essentials of grammar, reading, pronunciation, translation and composition. Four class hours per week.  Usually offered every year.  Ms. Karp	NEJS 102b. Intermediate Literary Arabic	Continuation of NEJS 102a.  Usually offered every year.  Ms. Karp
NEJS 101b. Introductory Literary Arabic	Continuation of NEJS 101a. Four class hours per week.  Usually offered every year.  Ms. Karp	NEJS 103a. Advanced Literary Arabic	Designed to help the student attain an advanced reading proficiency. The syllabus includes selections from classical and modern texts representing a variety of styles and genres,  Usually offered every year.  Mr. Levy
NEJS 102a. Intermediate Literary Arabic	Readings in related classical and modern texts. Study of advanced grammatical and syntactical forms. Drills in pronunciation and composition.  Usually offered every year.  Ms. Karp	NEJS 103b. Advanced Literary Arabic	Continuation of NEJS 103a.  Usually offered every year.  Mr. Levy

**NEJS 104a.**  
**[IMES 104a]**  
**Islam: Civilization**  
**and Institutions**

Consideration of major issues in Islamic history; appreciation of Islamic religion, civilization and culture; Islam's relations with other civilizations and its role in contemporary society.

Usually offered in odd years.

Mr. Levy

**NEJS 105a.**  
**Advanced**  
**Conversational**  
**Hebrew**

For advanced students who want to work on accuracy, fluency and vocabulary building. Reading of contemporary texts and newspaper articles and listening to Israeli videos serves as a basis for building higher-level speaking proficiency. One additional weekly hour of lab work or speaking practice is required.

Usually offered every year.

Staff

**NEJS 105b.**  
**Hebrew**  
**Conversation,**  
**Composition and**  
**Grammar: Writing**  
**Intensive**

For advanced students who wish to enhance their proficiency and accuracy in writing and speaking. Plays, essays, current articles from Israeli newspapers and films provide the basis for writing and discussions.

Usually offered every year.

Staff

**NEJS 106b.**  
**Elementary Ugaritic**

Grammar and poetic texts are read with constant reference to biblical literature.

Usually offered in even years.

Mr. Wright

**NEJS 108a.**  
**Elementary**  
**Akkadian**

Introduction to Akkadian grammar and lexicon and to Cuneiform script. For beginning students of Akkadian.

Usually offered every year.

Mr. Wright

**NEJS 108b.**  
**Comparative**  
**Grammar of Semitic**  
**Languages**

An introduction to and description of the Semitic languages, the internal relationships within this linguistic family and the distinctive grammatical and lexical features of the individual languages.

Usually offered in odd years.

Mr. Wright

**NEJS 109b.**  
**Intermediate**  
**Akkadian**

Review of grammar and reading of Old Babylonian historical inscriptions, laws, letters and literary texts.

Usually offered every year.

Mr. Abusch

**NEJS 111a.**  
**Introduction to**  
**Biblical Literature**

A survey of the Hebrew Bible. Biblical books are examined from the various perspectives and compared to other ancient Near Eastern compositions. No knowledge of Hebrew is presumed.

Usually offered every year.

Mr. Brettler

**NEJS 111b.**  
**Themes in Biblical**  
**Religion**

An introduction to the major concepts of the religion of Israel in the light of ancient Near Eastern archaeology and literature. Emphasis is on presenting biblical religion as a system of beliefs and ideas both in the ancient framework and in relation to later Judaism and Christianity. All readings in English.

Usually offered in even years.

Staff

**NEJS 112a.**  
**The Book of Genesis**

Close critical reading of the Hebrew text of Genesis, with particular attention to the meaning, documentary sources and Near Eastern background of the accounts of creation and origins of human civilization in chapters 1-11.

Usually offered every third year.

Last offered Fall 1991.

Mr. Abusch

**NEJS 112b.**  
**The Book of Isaiah**

A textual and exegetical study; the historical background and leading ideas.

Usually offered in even years.

Staff

**NEJS 113a.**  
**Late Aramaic**

A study of Targumic Aramaic, with study of other forms of western and eastern Aramaic.

Usually offered every third year.

Last offered Spring 1992.

Mr. Wright

**NEJS 113b. (LGLS**  
**134b)**  
**Near Eastern Law:**  
**Source, Sense and**  
**Society**

A study of laws and legal ideas in biblical and Near Eastern law "codes," treaties and contracts; economic documents and narratives; the development of the laws and their significance for the various societies.

Usually offered every third year.

Will be offered Spring 1993.

Mr. Wright

<p>NEJS 114a. <b>The Book of Amos</b></p>	<p>An intensive study of the Hebrew text, its historical background, ideas and their place in ancient Israel. Prerequisite: Reading knowledge of biblical Hebrew.</p> <p>Usually offered every third year.</p> <p>Will be offered Spring 1993.</p> <p>Mr. Brettler</p>	<p>NEJS 117a. <b>Job and Related Literature</b></p>	<p>A close study of the Book of Job against the background of biblical and ancient Near Eastern wisdom texts. Focuses on the literary structure of the book and the problem of the righteous.</p> <p>Usually offered every third year.</p> <p>Last offered Spring 1992.</p> <p>Mr. Brettler</p>
<p>NEJS 114b. <b>Biblical Ritual and Cult</b></p>	<p>A study of ritual and cultic texts of the Bible (in Hebrew) and their rites and phenomena with historical-critical, Near Eastern-environmental, social-scientific and literary analysis.</p> <p>Usually offered every third year.</p> <p>Last offered Spring 1992.</p> <p>Mr. Wright</p>	<p>NEJS 117b. <b>Dead Sea Scrolls</b></p>	<p>Studies in the literature of Qumran texts, with particular attention to the exegetical literature.</p> <p>Usually offered in odd years.</p> <p>Staff</p>
<p>NEJS 115a. <b>The Book of Deuteronomy</b></p>	<p>A close examination of the text of Deuteronomy with special attention to its religious, legal and compositional features. Traditions found in the Book of Deuteronomy are compared with their counterparts elsewhere in the Pentateuch. The place of the Book of Deuteronomy in the history of the religion of Israel is considered.</p> <p>Usually offered in odd years.</p> <p>Staff</p>	<p>NEJS 118b. <b>The Book of Psalms</b></p>	<p>Selected readings of biblical psalms. Special attention is paid to religious ideas, literary forms and poetics. Prerequisite: Reading knowledge of biblical Hebrew.</p> <p>Usually offered every third year.</p> <p>Last offered Fall 1990.</p> <p>Mr. Wright</p>
<p>NEJS 115b. <b>Women and the Bible</b></p>	<p>The Hebrew Bible, a complex work, reflects a wide range of attitudes toward women. Examines these attitudes as they are reflected in issues such as the legal status of women, women in myths, women leaders, prostitution and the gender of ancient Israel's deity.</p> <p>Usually offered every third year.</p> <p>Last offered Spring 1992.</p> <p>Mr. Brettler</p>	<p>NEJS 120b. (JCS 120b.) <b>Intermediate Talmud</b></p>	<p>Treatise Sanhedrin, chapter three, which deals with the issue of voluntary and compulsory arbitration and the binding nature of gambling agreements.</p> <p>Usually offered every year.</p> <p>Mr. Kimelman</p>
<p>NEJS 116b. <b>The Problem of Evil in Jewish Philosophy</b></p>	<p>Beginning with an analysis of the general philosophical/theological problem posed by the problem of evil, the course continues with a systematic account of the main treatments of the problem in Jewish thought from antiquity to the present.</p> <p>Usually offered in even years.</p> <p>Mr. Fox</p>	<p>NEJS 121b. <b>Aspects of the Apocalyptic Imagination</b></p>	<p>A comparative and analytic survey of the ideas of Apocalypse, through study of the literary images and expressions of world catastrophe and renewal in religious literature—from ancient Egyptian, Mesopotamian and Israelite antiquity through the classical and medieval expressions of Judaism, Christianity and Zoroastrianism. Aspects of the secularization of Apocalyptic and consciousness literature in modernity are also treated.</p> <p>Usually offered in even years.</p> <p>Staff</p>
		<p>NEJS 122b. <b>Biblical Narrative Texts</b></p>	<p>An examination of the narrative techniques of various biblical stories, including selections from Genesis, Judges, Samuel, Jonah and Ruth. The basic tools for biblical research and the literary study of the Bible are explored. Prerequisite: Reading knowledge of biblical Hebrew.</p> <p>Usually offered in odd years.</p> <p>Mr. Brettler</p>

NEJS 123b. <b>Classical Biblical Commentaries</b>	An intensive study of the French and Spanish schools of Jewish commentators on selected books of the Bible. Prerequisite: Advanced reading knowledge of Hebrew.  Usually offered every fourth year.  Last offered Fall 1990.  Mr. Fox	NEJS 128b. <b>Exploration in Islamic Literature II: The Persian World</b>	See NEJS 128a for course description. NEJS 128a is not a prerequisite for 128b.  Usually offered every year.  Ms. Davidson
NEJS 124b. <b>Introduction to Jewish Mysticism</b>	A survey of the field of Jewish mysticism as reflected in its history, major texts, original ideas and symbolic structures. While focusing on the history and development of the central themes in Jewish mysticism, the course is also concerned with how to read a Jewish mystical text. All readings in English.  Usually offered in even years.  Mr. Fox	NEJS 129a. <b>Foundations of Jewish Law</b>	A study of the theoretical foundations of Jewish law, its codification and its continuing application to changing circumstances. Emphasis is on contemporary issues in Jewish law. All required readings in English.  Usually offered in odd years.  Mr. Fox
NEJS 125b. <b>Midrashic Literature: Sifre Deuteronomy</b>	An analysis of the midrashic method of the Sifre Deuteronomy. Emphasis is placed on a close reading of the text, with a view to developing in students the capacity to do independent analysis.  Usually offered every fourth year.  Last offered Spring 1990.  Mr. Kimelman	NEJS 129b. <b>Contemporary Jewish Ethics</b>	Contemporary Jewish ethics has evolved alongside major social, technological, historical and political changes in the modern world. Analyzes the positions of Jewish thinkers regarding such issues as abortion, euthanasia, war, the death penalty and biomedical ethics.  Usually offered in odd years.  Staff
NEJS 126a. (JCS 126a.) <b>Classical Rabbinic Thought</b>	A study of the major trends of the thought world of the Talmud and Midrash, the foundational documents of postbiblical, classical Judaism and the various ways modern scholars have tried to categorize the basic concepts of the rabbinic worldview.  Usually offered every fourth year.  Last offered Spring 1991.  Mr. Kimelman	NEJS 130a. <b>The Christian Bible</b>	An introduction to the Christian New Testament as a part of the Bible of the Christian churches and a document which illustrates the parting of the ways between Judaism and Christianity.  Usually offered in odd years.  Mr. Stendahl
NEJS 127b. (JCS 127b.) <b>The Jewish Liturgy</b>	A study of the literature, theology and history of the daily and Sabbath liturgy. Emphasis is placed on the interplay between literary structure and ideational content and discussion of the philosophical issues involved in prayer.  Usually offered every third year.  Last offered Spring 1989.  Mr. Kimelman	NEJS 130b. <b>The Philosophical and Religious Thought of Maimonides</b>	A comprehensive study of major aspects of the thought of Moses Maimonides. Attention is given to his contributions to Jewish law and his major philosophical and religious teachings.  Usually offered in even years.  Mr. Fox
NEJS 128a. <b>Explorations in Islamic Literature I: The Arab World</b>	A comprehensive view of Islamic literature, presenting the full chronological, regional, ethnic, socioeconomic, linguistic and ideological breadth of the Islamic world, studied in historical and social context.  Usually offered every year.  Ms. Davidson	NEJS 131a. <b>Jewish Thought: From the Bible to Maimonides</b>	Dominant themes in Jewish philosophy and religious thought from biblical times to the medieval period and its classical formulations of Judaism.  Usually offered every third year.  Last offered Spring 1990.  Mr. Fox

NEJS 131b. <b>Biblical Poetry: Love and Death</b>	A close reading of Hebrew poetic texts, with a consideration of what makes these texts poetic. Texts are chosen primarily from Song of Songs, Lamentations, Ecclesiastes and Job. Prerequisite: Reading knowledge of biblical Hebrew.  Usually offered in even years.  Mr. Brettler	NEJS 137b. <b>Contemporary Israeli Literature: Fiction</b>	Israeli fiction reflects many of the problems in contemporary Israeli life: the relation to the Arab, the effects of the Holocaust, the self-definition of the Jew, etc.  Usually offered in even years.  Mr. Mintz
NEJS 134a. (ANTH 134a.) <b>Muslim Cultures</b>	See ANTH 134a for description.  Usually offered in even years.  Staff	NEJS 139a. <b>Contemporary Israeli Literature: S.Y. Agnon—The Short Stories</b>	Samples Agnon's writings in this genre, from the Hassidic tales to the symbolic and fantastic. A critical analysis of his narrative technique serves as a key to his unique style and vision.  Usually offered in odd years.  Staff
NEJS 134b. <b>Messianism and Christology</b>	Explores how Messianism is common to Jews and Christians, both in its "personal" aspect (Messiah/Christ) and "social" aspect (Age to Come/Tikkun/Kingdom of God).  Usually offered every third year.  Last offered Spring 1992.  Mr. Stendahl	NEJS 139b. <b>Modern Hebrew Literature: Poetry</b>	Critical analysis of trends and aesthetic values of Hebrew poetry, from the end of the 19th century to the middle of the 20th, including Bialik, Tchernichowsky, Shlonsky and Uri Zvi Greenberg.  Usually offered in even years.  Mr. Mintz
NEJS 136a. <b>Biblical Motifs in Modern Hebrew Poetry</b>	Continuity and discontinuity between ancient themes and modern experience—from the prophetic voice and imagery to contemporary irony and iconoclasm. Taught in Hebrew.  Usually offered every third year.  Last offered Spring 1991.  Staff	NEJS 140a. (HIST 140a.) <b>History of the Jews from the Maccabees to 1492</b>	Judea during the second Commonwealth; Jews in the Roman Empire; origins of anti-Semitism; Jewish religious heritage; Islam and the Jews; the Jewish community; the church; state, society, economy and the Jews; and the expulsion of the Jews from Western Europe.  Usually offered in even years.  Mr. Ravid
NEJS 136b. <b>The Fiction of A.B. Yehoshua and Amos Oz</b>	A reading and discussion of the two most prominent writers of the Statehood Generation, who emerged in the 1960s to offer new and profound insights into the Israeli psyche. Taught in English.  Usually offered every third year.  Last offered Spring 1991.  Staff	NEJS 141a. <b>The Quest for Meaning in Jewish History</b>	An examination of the works on central thinkers from Josephus to the 20th century who have attempted to formulate distinctive approaches to Jewish history.  Usually offered in even years.  Mr. Ravid
NEJS 137a. <b>Three Major Themes in Modern Hebrew Literature</b>	A survey of Hebrew literature of the last 100 years, covering major writers of fiction and poetry. Topics include biblical motifs, national redemption, encounter with the Land of Israel, among others.  Usually offered every third year.  Last offered Fall 1989.  Staff	NEJS 141b. <b>Catholics, Protestants and Jews in Western Europe from the Reformation to the Present</b>	The political, legal, social and economic status of Catholics, Protestants and Jews, with emphasis on their struggle for equality in the transition from the medieval <i>respublica Christiana</i> to the modern secular nation-state.  Usually offered in even years.  Mr. Ravid

NEJS 142a. (JCS 142a) <b>An Introduction to Post-Biblical Jewish History</b>	An introduction to the main trends and developments in the legal, economic, social and religious history of the Jews, with emphasis on major areas of Jewish settlement.  Usually offered in odd years.  Mr. Ravid	NEJS 149b. <b>Islamic Bibliography</b>	Familiarizes the student with the history of oral and written communications in Islam and the Middle East. Special emphasis is placed on bibliographic literature in Western languages.  Usually offered every third year.  Last offered Spring 1989.  Staff
NEJS 144a. <b>Sephardim in the Near East</b>	A social and cultural history of Sephardic and Oriental Jewish communities in the Near and Middle East since 1492.  Usually offered in even years.  Mr. Levy	NEJS 150a. <b>The Perception of the Other</b>	How have Jews seen Christians and Christian seen Jews? Selected periods (ancient, medieval, modern and contemporary) are considered on the basis of both official documents and scholarly works.  Usually offered in even years.  Mr. Stendahl
NEJS 145b. (POL 132a.) <b>The Making of the Modern Middle East</b>	Discusses the processes which led to the emergence of the modern Middle East: disintegration of Islamic society, European colonialism, reform and reaction and the rise of nationalism and the modern states.  Usually offered in even years.  Mr. Levy	NEJS 150b. <b>Paul Among Jews and Gentiles</b>	The apostle Paul, his life, work and impact on Christianity, seen in the context of his own time when Jews and Christians had not yet parted ways and when Hellenistic Judaism attracted many Gentiles.  Usually offered in even years.  Mr. Stendahl
NEJS 147a. (HIST 106a.) <b>History of the Middle East and the Ottoman Empire, 1450-1914</b>	An historical survey of the Middle East from the establishment of the Ottoman Empire as the area's predominant power to World War I. Topics include Ottoman institutions and their transformation and the Ottoman Empire as a world power.  Usually offered in even years.  Mr. Levy	NEJS 151a. <b>Autobiographies, Memoirs and Letters in Jewish History</b>	Major periods, themes and personalities in Jewish history as presented in autobiographies, memoirs and letters. Emphasis is on historical insights, with attention also to the literary and psychological dimensions. Students are encouraged to contribute from their own perspectives.  Usually offered in even years.  Mr. Ravid
NEJS 147b. (POL 134b) <b>The Arab-Israeli Conflict</b>	Consideration of Arab-Jewish relations, attitudes and interactions from 1880 to the present. Emphasis is on social factors and intellectual currents and their impact on politics. Examines the conflict within its international setting.  Usually offered in even years.  Mr. Levy	NEJS 151b. (HIST 108b.) <b>History of the Jews of Venice</b>	Key problems in Jewish history in light of the experience of the Jews of Venice in the context of the Venetian social, political and economic history. Topics include the attitude of the church and state toward Jews, the ghetto, Jewish merchants and money lenders, Marranos and the inquisition, <i>raison d'état</i> and the admission of the Jews to Western Europe and North America.  Usually offered in odd years.  Mr. Ravid
NEJS 148b. <b>The Magic Carpet: Travellers in the Islamic East</b>	West meets East (the twain <i>shall</i> meet!) in works of Western (vs. Eastern) travellers (Marco Polo to Paul Bowles), portraying the Islamic world (our focus) in travelogues, letters, fiction and art.  Usually offered every year.  Ms. Karp	NEJS 152b. (HIST 107b.) <b>A History of Anti-Semitism</b>	An historical survey of the phenomenon of anti-Semitism from classical antiquity to the present.  Usually offered in even years.  Mr. Ravid

NEJS 156b.  
**Man and the Gods:  
Religion and  
Mythology of the  
Ancient Near East**

An introduction to the religion of the ancient Near East. Special attention is paid to how myths express an understanding of the gods and society.

Usually offered in odd years.

Mr. Abusch

NEJS 157a.  
**A History of Israel,  
1948–Present**

An analysis of Israel's domestic and foreign policies from 1948 to the present. Particular attention is given to social and political trends in Israeli society.

Usually offered every fourth year.

Last offered Spring 1990.

Mr. Reinhartz

NEJS 160a.  
(JCS 160a.)  
**The Emergence of  
the American  
Jewish Pattern**

Survey of American Jewish history from the earliest settlement to the present. The emergence of the institutions, ideologies, lifestyles and cultural norms that constitute the American Jewish pattern.

Usually offered every year.

Mr. Sarna

NEJS 161a.  
(SOC 118a.)  
**American Jewish  
Life**

A survey of contemporary American Jewish life, with special emphasis on the diverse forms of Jewish identification found in American Jewry. Topics include Reform, Conservative and Orthodox Judaism; Jewish family life, including intermarriage and the relationship of Jews to the general society and to other ethnic groups.

Usually offered every year.

Staff

NEJS 162a.  
**American Judaism**

American Judaism from the colonial period to the present, with particular emphasis on the various streams of American Judaism, the synagogue and the rabbinate.

Usually offered in even years.

Mr. Sarna

NEJS 163a.  
**Jewish-Christian  
Relations in  
America**

A topical approach to the history of Jewish-Christian relations in America from the colonial period to the present.

Usually offered in even years.

Mr. Sarna

NEJS 163b.  
(JCS 163b.)  
**American Jewish  
Leadership**

Surveys American Jewish leadership historically from colonial times until the present.

Usually offered in even years.

Mr. Sarna

NEJS 164a.  
**The American  
Jewish Woman:  
1890–1990**

Surveys the experiences of American Jewish women in work settings, families, communities and the larger American culture over the last 100 years, examining how the dual heritage of female and Jewish "otherness" shaped women's identities.

Usually offered in odd years.

Ms. Antler

NEJS 164b.  
(SOC 118b.)  
**The Sociology of the  
American Jewish  
Community**

The role of the subcommunity in American society; Jewish communal services in medieval and modern times; contemporary American Jewish communal forms; religion, community relations, overseas aid, social welfare and relationship with Israel.

Usually offered every year.

Staff

NEJS 165a.  
**American Jewish  
Culture**

Examines selected aspects of American Jewish culture in the 19th and 20th centuries.

Enrollment limited to 25.

Usually offered in odd years.

Mr. Sarna

NEJS 165b.  
**Early American  
Jewish Melting Pot**

The encounter between German-American Jewry and East European Jewish immigrants at the turn of the century laid the groundwork for the Jewish melting pot. Our tasks are to clarify, from a sociological point of view, the uniqueness of this encounter and to analyze some of its social, economic, political and cultural dimensions.

Usually offered in even years.

Staff

NEJS 166a.  
(JCS 166a.)  
**Modern Jewish  
History to 1880**

Themes include Enlightenment and Haskalah in Eastern and Western Europe, Hasidism, Emancipation and the problem of the marginal Jew, the Science of Judaism and the development of denominationalism in Judaism.

Usually offered every fourth year.

Last offered Fall 1988.

Mr. Reinhartz



NEJS 166b. (JCS 166b.) <b>Modern Jewish History, 1880–1948</b>	<p>Themes include integration and assimilation, migration, nationalism, Zionism, non-Zionism, anti-Zionism, Diaspora Nationalism, Western and Eastern Jewry in the period between the World Wars, the Holocaust and the establishment of the State of Israel.</p> <p>Usually offered every fourth year.</p> <p>Last offered Spring 1989.</p> <p>Mr. Reinharz</p>	NEJS 170b. <b>East European Jewry: In Modern Times</b>	<p>Focuses on the great challenges and changes experienced by East European Jewry, including anti-Semitism, the Jewish Enlightenment and the emergence of a secular Jewish culture, the rise of modern political currents and the liquidation of Jewish institutions in the Soviet Union.</p> <p>Usually offered every year.</p> <p>Staff</p>
NEJS 167a. <b>East European Jewish Immigration to the United States</b>	<p>An historical survey of East European Jewish immigration to the United States (1881–1924). Regular readings are supplemented by primary sources, immigrant fiction and films.</p> <p>Usually offered in odd years.</p> <p>Mr. Sarna</p>	NEJS 175a. <b>History of Zionism</b>	<p>The rise and development of the Zionist idea, Zionist parties, politics and diplomacy in relation to Jewish history and international affairs from 1880 to 1950. Zionism today.</p> <p>Usually offered every fourth year.</p> <p>Last offered Fall 1989.</p> <p>Mr. Reinharz</p>
NEJS 168a. <b>History and Culture of the Jews in Eastern Europe to 1914</b>	<p>Jewish civilization in Poland and Russia from the earliest Jewish settlements until World War I, with emphasis on attempts to create a <i>national</i> culture that was both “modern” and “Jewish.”</p> <p>Usually offered every year.</p> <p>Staff</p>	NEJS 177a. <b>Agnon and His Contemporaries: Hebrew Literature in Translation</b>	<p>Examines the existence and struggle of the Jews in the Diaspora and Israel from World War I, as reflected in modern Hebrew literature. Attention is also given to parallel motifs in European literature.</p> <p>Usually offered every third year.</p> <p>Last offered Spring 1990.</p> <p>Staff</p>
NEJS 168b. <b>History and Culture of the Jews in Eastern Europe, 1914 to the Present</b>	<p>Topics include relations between Jews and non-Jews, Jewish politics, culture, the Holocaust and the current revival of Jewish identity in Eastern Europe.</p> <p>Usually offered in even years.</p> <p>Staff</p>	NEJS 177b. <b>Responses to Catastrophe in Hebrew Literature</b>	<p>The role of the literary imagination in overcoming events of national destruction in the history of the Jewish people from the destruction of the First Temple to the Holocaust. Readings in Hebrew; class conducted in English.</p> <p>Usually offered in even years.</p> <p>Mr. Mintz</p>
NEJS 169a. (JCS 169a.) <b>The Destruction of European Jewry</b>	<p>A systematic examination of the Holocaust in the context of both Jewish and modern European history. Interdisciplinary approaches to historical sociology and legal philosophy are applied.</p> <p>Usually offered every year.</p> <p>Staff</p>	NEJS 182a. <b>Introduction to Jewish Bibliography</b>	<p>An introduction to general bibliographic tools and resources in the major subfields of Judaic studies, such as history, philosophy, Hebrew language and literature, anti-Semitism and Holocaust studies.</p> <p>Usually offered every year.</p> <p>Mr. Cutter</p>
NEJS 169b. (JCS 169b.) <b>Responses to the Holocaust</b>	<p>Historical, literary, psychological, legal and philosophical responses to the particular nature of the Holocaust are considered as they have challenged ideas about God, man, the meaning of history and Western civilization.</p> <p>Usually offered every fourth year.</p> <p>Last offered Spring 1990.</p> <p>Staff</p>	NEJS 184a. (HIST 184a.) <b>Arabs and Jews in Palestine, 1856–1948</b>	<p>See HIST 184a for course description.</p> <p>Usually offered every third year.</p> <p>Last offered Fall 1989.</p> <p>Mr. Wasserstein</p>

NEJS 201a. <b>Genesis: A Study in Method</b>	An examination of the Hebrew text of Genesis in relation to the methodologies of modern biblical scholarship. Particular attention to source criticism, form criticism and the text in its ancient environment.  Usually offered every third year.  Mr. Brettler	NEJS 207b. <b>Advanced Akkadian: Religious Texts</b>	Usually offered every third year.  Mr. Abusch
NEJS 202a. <b>Seminar in Biblical Religion</b>	An advanced seminar dealing with selected themes and topics in biblical religion, with comparative reference to other ancient Near Eastern religions.  Usually offered in even years.  Staff	NEJS 208b. <b>Advanced Akkadian: Historical Texts</b>	Usually offered every third year.  Mr. Abusch
NEJS 202b. <b>Introduction to Sumerian: Historical Inscriptions</b>	Usually offered every third year.  Mr. Abusch	NEJS 209b. <b>Advanced Sumerian: Literary and Religious Texts</b>	Usually offered every third year.  Mr. Abusch
NEJS 203a. <b>Biblical Historiography</b>	An examination of representative types of historical writings in the Bible, their relationship to ancient events and to political and religious ideologies and the problems of writing modern histories of ancient Israel.  Usually offered every third year.  Mr. Brettler	NEJS 210a. <b>Seminar on the Institutional Development of the American Jewish Community</b>	Usually offered in even years.  Staff
NEJS 203b. <b>Bible and Ancient Near East Studies</b>	Ongoing seminar examining the major works in modern biblical and ancient Near East studies, with special focus on methodology and trends of research.  Usually offered every year.  Messrs. Brettler and Abusch	NEJS 210b. <b>Jewish Communal Service: Historical and Philosophical Contexts</b>	An examination of changing ideological and philosophical positions relating to the development of the American Jewish community and the profession of Jewish communal service.  Usually offered in even years.  Staff
NEJS 204b. <b>Biblical Textual Criticism</b>	Usually offered in even years.  Mr. Abusch	NEJS 211a. <b>The Book of Hosea</b>	A close reading of Hosea. Various approaches to the text are compared, especially as they relate to the grammatical, textual and source-critical problems of this book.  Usually offered every third year.  Mr. Brettler
NEJS 206a. <b>Advanced Akkadian: Literary Texts</b>	Usually offered every third year.  Mr. Abusch	NEJS 211b. <b>Medieval Jewish Biblical Exegesis</b>	An introduction to traditional Hebrew Bible commentaries. The emphasis will be on building competence in reading these texts in their original Hebrew.  Usually offered every third year.  Mr. Brettler
NEJS 206b. <b>Advanced Akkadian: Literary Texts</b>	Usually offered every third year.  Mr. Abusch	NEJS 212b. <b>Psalms</b>	An examination of selected chapters from the Hebrew text of the book of Psalms.  Usually offered every third year.  Mr. Brettler
NEJS 207a. <b>Advanced Akkadian: Religious Texts</b>	Usually offered every third year.  Mr. Abusch	NEJS 213b. <b>Semitic Languages: Syntax of Biblical Hebrew</b>	Deals with one or more aspects of individual Semitic languages in different years.  Usually offered every third year.  Staff

NEJS 21Sb. <b>Topics in American Jewish Communal Organization</b>	Usually offered every third year.  Staff	NEJS 252b. <b>Hasidism and Its Opponents</b>	The rise of Hasidism and the ensuing religious conflict between Hasidism and Mitnagdim.  Usually offered in even years.  Staff
NEJS 220b. <b>Introduction to the Study of American Jewish History:</b>	Bibliography, Historiography and Methods A critical survey of the literature of American Jewish history with special attention to questions of methodology. Students examine basic reference works and classics in the field and choose one subfield within American Jewish history to explore in depth.  Usually offered in alternate years.  Mr. Sarna	NEJS 257d. <b>German Jewish History</b>	Topics include the debate over the Emancipation of the Jews, religious reactions, the science of Judaism, anti-Semitism, the impact of World War I, the inter-war period and German Jewry under Nazism.  Usually offered every fourth year.  Mr. Reinhartz
NEJS 221b. <b>The American Jewish Experience: Sources and Interpretations</b>	An in-depth examination of primary sources in selected areas of American Jewish history, with special attention to problems of interpretation and generalization.  Usually offered in odd years.  Mr. Sarna	NEJS 258b. <b>Seminar on Modern Jewish History and Historiography</b>	Usually offered in even years.  Mr. Reinhartz
NEJS 225b. <b>Northwest Semitic Inscriptions I</b>	A careful reading of Hebrew, Edomite and Moabite inscriptions from the First Temple period. Issues of epigraphy, historical grammar, dialectology and historical reconstruction are examined.  Usually offered every third year.  Staff	NEJS 259d. <b>Topics on Zionism</b>	Usually offered every third year.  Mr. Reinhartz
NEJS 230a. <b>Seminar in Medieval Jewish Philosophy</b>	Maimonides and contemporary criticism.  Usually offered in even years.  Mr. Fox	NEJS 260a. <b>Seminar on the Philosophical Foundations of Jewish Ethics: Ancient and Medieval</b>	Usually offered every fourth year.  Mr. Fox
NEJS 230b. <b>Seminar in Medieval Jewish Philosophy</b>	Usually offered in even years.  Mr. Fox	NEJS 260b. <b>Seminar on the Philosophical Foundations of Jewish Ethics: Modern</b>	Usually offered every fourth year.  Mr. Fox
NEJS 232b. <b>Seminar in Modern Jewish Philosophy</b>	Usually offered in even years.  Mr. Fox	NEJS 264a. <b>Seminar: Rabbinic Theology</b>	A study of the various methodologies used to study the thought of the rabbis of the Talmud and Midrash.  Usually offered every third year.  Mr. Kimelman
NEJS 240a. <b>As of Sufferance and Not on Right</b>	An examination of the charters and laws regulating the status of the Jews as a corporate body in the pre-Emancipation Diaspora, with special attention to religious, economic and social factors.  Usually offered in odd years.  Mr. Ravid	NEJS 287b. (JCS 287b.) <b>Methods in Jewish Community Research</b>	See JCS 287b for course description.  Usually offered every year.  Mr. Tobin
		NEJS 317-340. <b>Reading Courses</b>	Special tutorials for advanced graduate students.
		317a and b. <b>Readings in Assyriology</b>	Mr. Abusch

321a and b. Readings in Medieval Jewish Philosophy	Mr. Fox	336a and b. Readings in Bible and Northwest Semitics	Staff
322a and b. Readings in Modern Jewish Philosophy	Mr. Fox	337a and b. Readings in Talmudic and Midrashic Literature	Mr. Kimelman
323a and b. Readings in Jewish Thought	Mr. Fox	339a and b. Readings in Ottoman History and Civilization	Mr. Levy
324a and b. Readings in Hebrew	Ms. Nevo-Hacohen	340a and b. Readings in Modern Middle Eastern History	Mr. Levy
328a and b. Readings in Ancient Near Eastern Languages	Mr. Abusch	NEJS 401 d. Dissertation Colloquium	Independent research for the Ph.D. degree.
329a and b. Readings in Ancient Near Eastern Religions and Cultures	Mr. Abusch		Specific sections for individual faculty members as requested.
331a and b. Readings in Yiddish Literature	Staff		Staff
332a and b. Readings in American Jewish History	Mr. Sarna		
333a and b. Readings in the History of the Jews in Europe to 1800	Mr. Ravid		
334a and b. Readings in Modern Jewish History	Mr. Reinhartz		
335a and b. Readings in East European Jewish History	Staff		

# Physics

## Objectives

The graduate program in physics is designed to equip students with a broad understanding of major fields of physics and to train them to carry out independent, original research. This objective is to be attained by formal course work and supervised research projects. As the number of students who are accepted is limited, a close contact between students and faculty is maintained, permitting close supervision and guidance of each student.

Advanced degrees will be granted upon evidence of the student's knowledge, understanding and proficiency in classical and modern physics. The satisfactory completion of advanced courses will constitute partial fulfillment of these requirements. Research upon which theses may be based, with residence at Brandeis, may be carried out in the following areas.

## Theoretical Physics

Quantum theory of fields; elementary particle physics; relativity; supergravity; string theory; quantum statistical mechanics; quantum theory of the solid state, critical phenomena and phase transitions.

## Experimental Physics

High energy experimental physics; atomic and molecular physics; solid-state physics; surface physics; liquid-crystal physics; light scattering; positron physics; radio astronomy; biophysical structure analysis; biophysical magnetic resonance.

## Admission

As a rule, only candidates for the Ph.D. degree will be accepted. The general requirements for admission to the Graduate School apply to candidates for admission to the graduate area in physics. Admission to advanced courses in physics will be granted following a conference with the student at entrance.

## Faculty

Professor  
**John F.C. Wardle**  
Chair:  
Radio astronomy.  
Cosmology.

Professor  
**Laurence F. Abbott:**  
Computational  
neuroscience.  
Neural networks.

Professor  
**James R. Bensinger:**  
Experimental high-energy  
physics.

Professor  
**Craig A. Blocker:**  
Experimental  
high-energy  
physics.

Professor  
**Karl F. Canter:**  
Experimental  
low-energy  
positron physics at  
surfaces and  
disordered systems.

Professor  
**Donald L.D. Caspar**  
(Rosenstiel Basic  
Medical Sciences  
Research Center):  
Structural  
molecular biology.  
X-ray  
crystallography.

Professor  
**Stanley A. Deser:**  
Quantum theory of  
fields. Elementary  
particles.  
Gravitation.  
Supergravity.  
Strings.

Professor  
**Jack S. Goldstein:**  
Astrophysics.  
Science and public  
policy.

Professor  
**Marcus T. Grisaru:**  
Quantum field  
theory. Strings.  
Elementary  
particles.  
Supergravity.

Professor  
**Peter Heller:**  
Statistical physics.  
Spin systems.

Professor  
**Lawrence E. Kirsch:**  
High-energy  
experimental  
physics.

Professor  
**Robert B. Meyer:**  
Liquid crystals.  
Colloids. Polymers.

Professor  
**Hugh N. Pendleton:**  
Mathematical  
physics.

Professor  
**Alfred G. Redfield**  
(Rosenstiel Basic  
Medical Sciences  
Research Center):  
Magnetic  
resonance.  
Biophysics.

Professor  
**David H. Roberts:**  
Theoretical  
astrophysics. Radio  
astronomy.

Professor  
**Howard J. Schnitzer:**  
Elementary  
particle theory.  
Quantum theory of  
fields. String theory.

Professor  
**Silvan S. Schweber:**  
History and  
philosophy of  
science. Quantum  
theory of  
measurements.

Associate Professor  
**Eric S. Jensen:**  
Experimental  
solid-state physics.

Associate Professor  
**Robert V. Lange:**  
Educational  
software.

Associate Professor  
**Hermann F. Wellenstein:**  
Experimental  
atomic physics.  
Electronic impact  
spectroscopy.

Assistant Professor  
**Bulbul Chakraborty:**  
Condensed matter  
theory. Electronic  
structure of solids  
and disordered  
systems.

Assistant Professor  
**Seth Fraden:**  
Physics of liquid  
crystals and  
macromolecules.

## Degree Requirements

### Master of Arts

#### Program of Study.

The requirements for advanced degrees in the Department of Physics are as follows:

1. One year in residence as a full-time student.
2. Six term courses of advanced work in physics. A thesis on an approved topic may be accepted in place of a term course.
3. Satisfactory performance in the qualifying examination.

#### Advanced Examinations.

Advanced examinations will be in topics partitioned in the several areas of research interest of the faculty. Faculty members working in each general area will function as a committee for this purpose and provide information about their work through informal discussions and seminars. The advanced examination requirement consists of a written paper and an oral examination. While no original research by the student is expected, it is hoped that a proposal for a possible thesis topic will emerge. It is generally expected that the candidate will take the advanced examination in the field he/she wishes to pursue for the Ph.D. thesis, although there may be exceptions.

#### Thesis Research.

After passing the advanced examination, the student begins work with an advisor who guides his/her research program. The advisor should be a member of the Brandeis faculty but in special circumstances may be a physicist associated with another research institution. The graduate committee of the physics faculty will appoint a dissertation committee to supervise the student's research. The student's dissertation advisor will be the chair of the dissertation committee. The committee will recommend the student for admission to candidacy for the doctorate on recommendation of his or her advisor.

### Doctor of Philosophy

#### Program of Study.

Normally, first-year graduate students will elect from the 100 series; second-year students from the 200 series. To obtain credit toward residence for a graduate course taken at Brandeis, a student must achieve a final grade of B- or better in that course. Students may obtain credit for advanced courses taken at another institution provided their level corresponds to the level of graduate courses at Brandeis and that an honor grade in these courses was obtained.

#### Residence Requirement.

The minimum residence requirement is three years. A student may obtain up to one year's residence credit toward the Ph.D. requirements for graduate studies taken at another institution. No transfer residence credit will be allowed toward fulfillment of the master's requirements.

#### Dissertation and Final Oral Examination.

The doctoral dissertation must represent research of a standard acceptable to the faculty committee appointed for each Ph.D. candidate. The Final Oral Examination, or defense, is an examination in which the student will be asked questions pertaining to the dissertation research.

#### Language Requirement.

There is no foreign language requirement for either the master's or the doctoral degrees.

#### Teaching.

It is expected that all graduate students will do some undergraduate teaching during the course of their studies.

#### Qualifying Examination.

In the first year, Quantum Mechanics (PHYS 102) and Electromagnetic Theory (PHYS 101) must be taken by all students unless they are exempted or excused. The final examinations in these courses (both fall and spring terms) serve as the written part of the qualifying examination. An oral examination given at the end of the first year completes the qualifying process.

#### Course Requirements.

At least two graduate courses in the list below must be taken during the first three terms: (1) Statistical Physics, (2) Solid-State Physics, (3) Biophysics, (4) Elementary Particles, (5) Astrophysics, (6) Experimental Physics (PHYS 109), (7) General Relativity. Note, however, that not all of the above courses will necessarily be given each year. One term of Advanced Quantum Mechanics (PHYS 202a) is a required course for all students.

## Courses of Instruction

<b>Physics 100a.</b> <b>Classical Mechanics</b>	Lagrangian dynamics, Hamiltonian mechanics, planetary motion, general theory of small vibrations. Introduction to continuum mechanics.  Usually offered every year.  Mr. Schweber	<b>Physics 104b.</b> <b>Solid-State Physics II</b>	Thermal, electric and magnetic properties of solids. Lattice vibrations. Specific heat. Structural probes. Fermi surfaces. Selected topics in superconductivity and ferromagnetism.  Usually offered in even years.  Ms. Chakraborty
<b>Physics 101a.</b> <b>Electromagnetic Theory I</b>	Electrostatics, magnetostatics and boundary value problems.  Usually offered every year.  Mr. Schnitzer	<b>Physics 105b.</b> <b>Nuclear Physics</b>	Structure of light nuclei. Scattering theory. Shell model and liquid drop model. Binding energy. Nuclear reactions. Radioactivity. High-energy nuclear physics. Quark model of elementary particles. Quantum chromodynamics.  Usually offered in odd years.  Staff
<b>Physics 101b.</b> <b>Electromagnetic Theory II</b>	Maxwell's equations. Quasi-stationary phenomena. Radiation.  Usually offered every year.  Mr. Schnitzer	<b>Physics 107a.</b> <b>Experimental Particle Physics</b>	The principles upon which experimental atomic, nuclear and particle physics are based. Relativistic kinematics, interactions of energetic particles in matter, accelerators and beams, particle detectors and computer-based analysis techniques.  Usually offered in odd years.  Staff
<b>Physics 102a.</b> <b>Quantum Mechanics I</b>	Nonrelativistic quantum theory and its application to simple systems; spin systems and the harmonic oscillator. Feynman diagram visualization of time-dependent perturbation theory.  Usually offered every year.  Mr. Pendleton	<b>Physics 107b.</b> <b>Particle Phenomenology</b>	The phenomenology of elementary particles and the strong, weak and electromagnetic interactions. Properties of particles, kinematics of scattering and decay, phase space, quark model, unitary symmetries and conservation laws.  Usually offered in even years.  Staff
<b>Physics 102b.</b> <b>Quantum Mechanics II</b>	The hydrogen atom. Systems of identical particles. Coupling of angular momenta. Scattering theory. Semiclassical analysis of interaction of atomic systems and electromagnetic waves.  Usually offered every year.  Mr. Pendleton	<b>Physics 108b.</b> <b>Introduction to Astrophysics</b>	Bremsstrahlung, synchrotron radiation, inverse Compton scattering. Extended and compact radio sources, jets, superluminal motion. Quasars and active galactic nuclei, IR to X-ray continua, spectral line formation. Black holes and accretion disks.  Offered irregularly as demand requires.  Last offered Spring 1991.  Staff
<b>Physics 103a.</b> <b>Statistical Physics and Thermodynamics</b>	The thermal properties of matter. Derivation of thermodynamics from statistical physics. Statistical theory of fluctuations.  Usually offered every year.  Mr. Redfield	<b>Physics 109a.</b> <b>Advanced Laboratory I</b>	Methods and techniques of experimental research.  Usually offered every year.  Mr. Bensinger
<b>Physics 104a.</b> <b>Solid-State Physics I</b>	The formal description of periodic systems. The vibrational and electronic properties of solids. Band structure and the Fermi surface. The transport and optical properties of solids.  Usually offered in even years.  Mr. Canter		

Physics 109b. <b>Advanced Laboratory II</b>	Methods and techniques of experimental research.  Usually offered every year.  Mr. Meyer	Physics 200b. <b>General Relativity II</b>	Advanced topics in classical and quantum gravity and supergravity. Emphasis is on recent literature.  Usually offered every fourth year.  Staff
Physics 110a. <b>Mathematical Physics</b>	Complex variables; Fourier and Laplace transforms; special functions, partial differential equations.  Usually offered every year.  Mr. Deser	Physics 202a. <b>Quantum Mechanics III</b>	Nonrelativistic field theory and relativistic quantum mechanics. Graphical version of time-dependent perturbation theory. Application of group theory to quantum mechanics.  Usually offered every year.  Mr. Deser
Physics 113a. <b>First-Year Tutorial I</b>	A review of physics from the most elementary topics to those treated in other first-year graduate courses. The environment of an oral qualifying examination is reproduced in the tutorial.  Usually offered every year.  Messrs. Heller and Pendleton	Physics 202b. <b>Quantum Fields</b>	Introduction to relativistic quantum field theory. The Feynman diagram perturbative expansion is employed to discuss gauge theories and, in particular, the standard model of fundamental interactions.  Usually offered every third year.  Staff
Physics 113b. <b>First-Year Tutorial II</b>	A continuation of Physics 113a.  Usually offered every year.  Mr. Abbott	Physics 204a. <b>Condensed Matter I</b>	Topics in condensed matter theory.  Usually offered in odd years.  Staff
Physics 137b. <b>Twentieth-Century Physics</b>	Explores developments in physics during the 20th century from an historical perspective, paying particular attention to the wider context in which these advances took place.  Offered irregularly as demand requires.  Last offered Fall 1987.  Staff	Physics 204b. <b>Condensed Matter II</b>	A continuation of PHYS 204a.  Usually offered in odd years.  Staff
Physics 152b. (BIOP 152b) <b>Biological Assembly</b>	Physical principles in the construction of biological structures: forces, equilibria, symmetry and control mechanisms. Analysis of the structure and assembly of viruses, membranes and cellular organelles.  Usually offered every third year.  Will be offered Spring 1993.  Mr. Caspar	Physics 208a. <b>Cosmology</b>	Friedman big bang models, physical processes in the early universe, galaxy formation, 3°K background radiation, present density of the universe, classical observational tests, application of radio astronomy to cosmology.  Usually offered every fourth year.  Staff
Physics 200a. <b>General Relativity I</b>	Introduction to current research and problems in gravitational physics. Physical and mathematical background are provided as needed, but emphasis is on recent literature.  Usually offered in odd years.  Staff	Physics 210a. <b>Particle Seminar I</b>	Analysis of important recent developments in particle physics.  Usually offered every year.  Mr. Deser
		Physics 210b. <b>Particle Seminar II</b>	A continuation of PHYS 210a.  Usually offered every year.  Mr. Schnitzer



Physics 211a.  
**Computational  
Physics**

Numerical differentiation and integration. Curve fittings. Numerical solution of elliptic, parabolic and hyperbolic differential equations. Molecular dynamics. Monte Carlo simulation. Monte Carlo renormalization group technique.

Usually offered in odd years.

Staff

Physics 212a.  
**Condensed Matter  
Seminar I**

Analysis of important recent developments in condensed matter physics.

Usually offered every year.

Staff

Physics 212b.  
**Condensed Matter  
Seminar II**

A continuation of PHYS 212a.

Usually offered in even years.

Staff

Physics 213a.  
**Advanced  
Examination  
Tutorial I**

Supervised preparation for the advanced examination.

Usually offered every year.

Staff

Physics 213b.  
**Advanced  
Examination  
Tutorial II**

Supervised preparation for the advanced examination.

Usually offered every year.

Staff

Physics 240b.  
**Biophysical  
Research**

See BIOP 200b for description.

Usually offered every year.

Staff

Physics 301a.  
**Astrophysics  
Seminar I**

Advanced topics and current research in astrophysics are discussed.

Usually offered every year.

Mr. Wardle

Physics 301b.  
**Astrophysics  
Seminar II**

A continuation of PHYS 301a.

Usually offered every year.

Mr. Roberts

Physics 302a.  
**Particle  
Seminar III**

Seminar covers latest advances in elementary particle physics. Includes student presentations and invited speakers.

Usually offered every year.

Mr. Bensinger

Physics 302b.  
**Particle  
Seminar IV**

A continuation of PHYS 302a.

Usually offered every year.

Mr. Kirsch

Physics 303a.  
**Positron  
Seminar I**

Seminar covers latest developments in atomic, solid-state and surface physics as studied using positron techniques. Includes student presentations and invited speakers.

Usually offered every year.

Mr. Canter

Physics 303b.  
**Positron  
Seminar II**

A continuation of PHYS 303a.

Usually offered every year.

Mr. Canter

Physics 304a.  
**Solid State  
Seminar I**

Analysis and discussion of recent important developments in solid-state physics.

Usually offered every year.

Ms. Chakraborty

Physics 304b.  
**Solid State  
Seminar II**

A continuation of PHYS 304a.

Usually offered every year.

Ms. Chakraborty

Physics 305a.  
**Liquid Crystals I**

Recent advances in the physics of liquid crystals and related systems such as microemulsions, colloidal suspensions and polymer solutions.

Usually offered every year.

Mr. Meyer

Physics 305b.  
**Liquid Crystals II**

A continuation of PHYS 305a.

Usually offered every year.

Mr. Fraden

Physics 311a.  
**Mathematical  
Physics II**

The mathematics and physics of the quantum string theory of elementary particles.

Usually offered every fourth year.

Staff

<b>Research Courses</b>		<b>Physics 429d. Structural Biology</b>	<b>Mr. Caspar</b>
Physics 405d. Experimental Elementary Particle Physics	Specific sections for individual faculty members as requested.  Staff	Physics 430d. Experimental Solid-State Physics	Specific sections for individual faculty members as requested.  Staff
Physics 408d. Computational Neuroscience	Mr. Abbott	Physics 431d. Experimental Condensed- Matter Physics	Specific sections for individual faculty members as requested.  Staff
Physics 409d. Theoretical Elementary Particle Physics	Specific sections for individual faculty members as requested.  Staff	Physics 432d. Experimental Atomic and Molecular Physics	Mr. Wellenstein
Physics 416d. Statistical Physics	Mr. Heller	Physics 436d. Biophysics	Mr. Redfield
Physics 417d. Theoretical Solid-State Physics	Specific sections for individual faculty members as requested.  Staff		
Physics 421d. Relativity	Mr. Deser		
Physics 422d. Mathematical Physics	Specific sections for individual faculty members as requested.  Staff		
Physics 426d. Astrophysics	Specific sections for individual faculty members as requested.  Staff		

# Politics

## Objectives

The graduate program in politics, leading to the degree of Doctor of Philosophy, emphasizes comprehensive professional training by stressing both the fundamentals of the discipline grounded in the study of political thought and institutions and the requirements of method and analytical skills.

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Normally, the student's undergraduate training must be in a field of social sciences to be considered for admission to this program. Applicants are expected to take the Graduate Record Examination.

## Faculty

Professor  
**Seyom Brown**  
Chair:  
International  
relations. Theories  
of world politics.  
American foreign  
policy.

Professor  
**Jeffrey B.  
Abramson:**  
Political theory.  
Constitutional law.

Professor  
**Robert J. Art:**  
International  
relations.  
American foreign  
policy. National  
security affairs.

Professor  
**Donald Hindley:**  
Comparative  
politics. Southeast  
Asia; Latin  
American politics.

Professor  
**Mark L. Hulliung:**  
Political theory.

Professor  
**Martin A. Levin**  
Director, Gordon  
Public Policy  
Center:  
American politics.  
Urban politics.

Professor  
**Ruth S.  
Morgenthau:**  
Comparative  
politics. Politics  
and development.  
Rural  
development.  
Africa.

Professor  
**Peter Woll:**  
American politics.  
Administrative law.

Associate Professor  
**Steven L. Burg:**  
Comparative  
politics.  
Post-Soviet Europe.

Associate Professor  
**R. Shep Melnick:**  
American politics.  
American national  
institutions.  
Public law and  
regulation.

Associate Professor  
**Sidney M. Milkis:**  
American politics.  
Political parties.  
The presidency.

Associate Professor  
**Ralph Thaxton:**  
Comparative  
politics. Peasants  
and revolution.

Assistant Professor  
**Ethan Kapstein:**  
International  
relations.  
International  
political economy.

Assistant Professor  
**Jytte Klausen:**  
Politics of  
advanced industrial  
nations and  
comparative  
politics.

## Degree Requirements

### Master of Arts

Normally, no one will be accepted into the program who is not a doctoral candidate. However, the M.A. degree may be awarded upon satisfactory completion of one year of residence with a minimum of six courses, the submission of a research paper approved by two members of the politics department faculty and either the demonstration of proficiency in a foreign language or satisfactory completion of two term courses of statistics or satisfactory completion of the scope and methods seminar as described under the Ph.D. research tools requirements below.

### Doctor of Philosophy

Students should note certain special features of the program, in particular, a) instruction in small seminars under close faculty supervision, b) supervised independent study facilities within the program, c) supervised teaching assistantships, d) opportunities for study in the consortium of universities in the Boston area and e) the opportunity to incorporate work in related and relevant fields, e.g., economics, anthropology, philosophy. Each student is assigned to a program advisor who will help plan a professional and pertinent program of study. A continuity of faculty direction is ensured throughout the program with allowance for shifts in curricular interest.

### Program of Study.

The student must complete three years in residence and a minimum of 12 term courses. Students with an M.A. in political science from other institutions may petition at the end of one year to have their previous graduate courses accepted for Brandeis credit; this may relieve them of as much as a year of residence requirement. (However, they must satisfy all Brandeis requirements: distribution of curriculum, language, etc.) For distribution, each graduate student will be required to take three of the following fields: American government, comparative

government, international relations, political theory or two of the above plus a category of study at the graduate level in another program of the University, as shall be judged valid for the student's program by this program.

Within each subfield chosen, students are expected to have a broad knowledge of the major theoretical and analytical approaches, a more intensive familiarity with one or more functional areas of the subfield and special expertise in particular geographic areas, policy issues and/or historical periods. The requirements for a student majoring in each subfield are somewhat more extensive than those for a student choosing it as a second or third field. The specific requirements for each subfield may be obtained from the politics program.

The standard work load for full-time students is at least three courses in each term of their first two years of study. Fourth courses and audits are encouraged, but the load is deliberately set so that the student may supplement his/her regular course work with independently motivated reading and scholarship. Reading courses will not be offered to first-semester students and will be discouraged generally during the first year. By the end of the first year, students should have identified their major and at least one of their minor fields of interest and should make this known to their advisor and the Graduate Studies Chair.

Each student is required to: (1) pass with a graduate grade (B- or better) the politics program's Seminar in Scope and Methods. Credit for this one-term course may be counted toward fulfillment of the Ph.D. course requirements. A similar course taken elsewhere may be used to fulfill this requirement, subject to the approval of the Graduate Committee. (2) Either a) pass a language examination (normally administered within the program) designed to test for a reading knowledge of a foreign language sufficient to conduct doctoral dissertation research or b) pass with a B- or better course work in statistics approved by the Graduate Studies Chair.

Neither courses taken in conjunction with the language examination nor statistics courses may be counted for course credit toward the Ph.D.

At the end of each student's first year in the graduate program, there will be a consultation between the student and three members of the program to evaluate the student's academic progress and help plan the student's subsequent work.

## Qualifying Examinations

Normally at the end of the fourth semester or early in the fifth, a formal oral and written examination for the Ph.D. will be given covering the student's three fields but with emphasis on the subfield(s) in which the student has done the most work. Examinations are to be taken in one of three periods, each four weeks long, especially designed by the program's Graduate Studies Chair each year for this purpose (early fall term, early spring term and late spring term). Each student will take all three written field examinations (one each week) and a follow-on oral examination during one of these designated examination periods. Students are examined orally in their three fields simultaneously.

Each student must complete the Ph.D. qualifying examinations by the end of his/her fifth term in the program and must submit a dissertation prospectus by the end of the sixth term. Any extension must be granted specifically by the Graduate Committee.

## Dissertation and Defense.

The dissertation will be completed under the supervision of an appropriate member of the program faculty. The dissertation proposal must be sponsored by a program committee of at least two members appointed by the program Chair in consultation with the Graduate Committee. It is assumed that the writing of the dissertation will take at least one year and, barring exceptional circumstances, not more than two and one-half years. The student must successfully defend the dissertation at a Final Oral Examination conducted by his/her two program supervisors and another faculty member from outside the program or from another university.

## Teaching Assistantships.

Training and experience in teaching college-level courses is emphasized in the Ph.D. program. After the first year, each student on fellowship stipend will be expected to serve as a teaching assistant in at least one course per year.

## Research Tools Requirement.

## Evaluation of First Year.

## Courses of Instruction

### Seminars for Graduate Students

**Politics 201b.  
Seminar: Political  
Research and  
Analysis**

Provides students with an introduction to research methods and techniques of analysis appropriate for processing and analyzing political data. The emphasis is on teaching students to understand and critique various methodologies used in political science, including historical/structural analysis, survey research, statistical analysis and formal theory.

The first section of the course is devoted to some preliminary reflections on the study of politics, particularly the scientific method, ethical and philosophical issues (e.g., a critique of behavioralist and positivist approaches) and the criteria for good theory. Introduces students to the basic concepts and uses of statistics, particularly correlation, regression and problems of causal inference.

Usually offered in even years.

Staff

**Politics 203a.  
Seminar:  
Comparative Politics**

An examination of the approaches, concepts and theories of the field of comparative politics.

Usually offered in even years.

Mr. Burg

**Politics 203b.  
Seminar: Selected  
Topics in  
Comparative Politics**

Provides graduate students an opportunity to engage in research and discussion of selected issues in comparative politics. Each term it deals with a different topic in greater depth than is possible in the context of the program's field seminar in this area.

Usually offered in even years.

Staff

**Politics 204a.  
Seminar:  
International  
Relations Theory**

An examination of the approaches, concepts and theories in the field of international politics.

Usually offered in odd years.

Staff

**Politics 204b.  
Seminar: Selected  
Topics in  
International  
Relations**

Provides graduate students an opportunity to engage in research and discussion of selected issues in international relations. Each term it deals with a different topic in greater depth than is possible in the context of the program's field seminar in this area.

Usually offered in even years.

Staff

**Politics 205a.  
Seminar: American  
Politics**

An examination of the approaches, concepts and theories in the field of American politics.

Usually offered in even years.

Staff

**Politics 205b.  
Seminar: Advanced  
Topics in American  
Politics**

Provides graduate students an opportunity to engage in research and discussion of selected issues in American politics. Each term it deals with a different topic in greater depth than is possible in the context of the program's field seminar in this area.

Usually offered in odd years.

Staff

**Politics 206a.  
Seminar: Political  
Theory**

An examination of the approaches and concepts in the field of political theory.

Usually offered in odd years.

Staff

**Politics 206b.  
Seminar: Advanced  
Topics in Political  
Theory**

Provides graduate students an opportunity to engage in research and discussion of selected issues in political theory. Each term it deals with a different topic in greater depth than is possible in the context of the program's field seminar in this area.

Usually offered in even years.

Staff

### Seminars for Graduate Students and Advanced Undergraduates

**Politics 215b.  
Seminar:  
Constitutional Law  
and Theory**

An advanced research seminar on selected issues of constitutional law.

Usually offered in even years.

Mr. Woll

**Politics 218b.  
Research Seminar:  
Elections in Theory  
and Practice**

Provides students with an opportunity to research a topic of interest on elections in the United States. Attention is paid to various theories that have been offered to explain voting, as well as the basic empirical methodologies used to investigate political behavior. In consultation with the instructor, each student undertakes the completion of a research project based on a computer analysis of recent elections in the United States.

Usually offered in odd years.

Mr. Milkis

**Politics 222b.**  
**Seminar: Policy**  
**Analysis and Policy**  
**Implementation**

Political economy—the interface of economics and political science. Uses concepts of economics and political science to develop better analysis of public sector issues in order to ameliorate social problems. Integrates formal techniques of analysis (such as cost-benefit analysis, decision theory, modeling), with a concern for political feasibility and the constraints of implementation, especially those flowing from the nature of organizations. Problem areas are chosen to illustrate the dual dilemmas in imperfect public interventions.

Usually offered every year.

Mr. Levin

**Politics 223a.**  
**Seminar: Government,**  
**Business and**  
**American Politics**

Examines the interaction of economics and politics in the American political system. A good deal of emphasis is placed on the politics of regulation and the philosophical and historical context in which government-business relations have developed. Using environmental and consumer regulation as examples, the course examines the prospects for regulatory reform and the effects on the public interest of political efforts to curb the impact of federal intervention in society.

Usually offered in odd years.

Mr. Milkis

**Politics 231b.**  
**Seminar: Advanced**  
**Topics in Soviet**  
**Politics**

Provides advanced undergraduate and graduate students with an opportunity to engage in research and discussion of selected issues in Soviet domestic politics or foreign policy.

Usually offered in even years.

Mr. Burg

**Politics 247b.**  
**Seminar: The**  
**Modern Chinese**  
**Revolution**

Provides an in-depth exploration of the origins, process and consequences of the modern Chinese revolution. Focuses specifically on Western social science theories and interpretations of the revolution. Provides a comprehensive perspective on revolution in 20th-century China and revolutionary movements in other parts of the globe.

Usually offered every year.

Mr. Thaxton

**Politics 248a.**  
**Seminar:**  
**Contemporary**  
**Chinese Politics**

Provides a broad and in-depth understanding of key issues in contemporary Chinese politics—China after 1949. The course is especially concerned with the role of the state in promoting economic development, social betterment, political stability and justice.

Usually offered every year.

Mr. Thaxton

**Politics 252a.**  
**Seminar: The**  
**Political Economy**  
**of Advanced**  
**Industrial**  
**Democracies**

Designed to introduce students to the history and theory of political economy, giving particular attention to the relationship between capitalism, socialism and democracy. We also devote considerable time to the study of the development of the political economies of Western Europe and North America since 1945. This study seeks to determine the scope and role of government in the economies of the advanced industrial democracies.

Usually offered every year.

Staff

**Politics 257a.**  
**Seminar: Politics**  
**and Society in**  
**Western Europe**

Treats Western Europe as a case study in political development and a testing ground for theories of political support and legitimacy. It is designed to deal with three major topics relating to the political development of Western Europe: (1) the transition from feudalism and the creation of the modern capitalist state, (2) the processes of legitimation of the institutional order during and after the industrial revolution and (3) the accommodation of industrial workers and the rise and fall of class politics.

Usually offered in even years.

Staff

**Politics 258a.**  
**Seminar: Political**  
**Participation**

An examination of the major models or conceptualizations of participation and their ideological or political underpinnings. Explores the variety of actual forms of participation and "regime-type" and attempts to differentiate "participation" from other forms of political behavior, such as "mobilization" or "involvement," thereby distinguishing between "citizens" and "subjects."

Usually offered in even years.

Mr. Burg

**Politics 266b.**  
**Seminar: Issues in**  
**International**  
**Political Economy**

Selected theories of international relations are used to analyze current problems in international political economy. Issues such as global debt, Third World development, North-North and North-South economic relations and resource politics are examined in depth.

Usually offered every year.

Mr. Kapstein

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**Politics 274b.  
Problems of  
National Security**

An analysis of current issues in national security policy through examination of basic theories on the role and utility of force in international relations. Topics include nuclear deterrence, force planning and budgeting arms control, force projection in the Persian Gulf, proliferation and the NATO alliance.

Usually offered every year.

Mr. Art

**Politics 302a and b.  
Readings in Politics**

Specific sections for individual faculty members as requested.

Offered every year.

Staff

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**Politics 400d.  
Dissertation  
Research**

Independent research for the Ph.D. degree.

Specific sections for individual faculty members as requested.

Staff

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**Politics 279a.  
Seminar: The  
Politics of Food  
Security**

Why is there hunger in a world full of grain? The issue is examined from the international, national, regional and local levels. Why is economic growth not enough to end famine? What policies and programs promote adequate production and equitable distribution of food supplies? Readings focus on international as well as national efforts to secure access to food at acceptable prices. How food policy is formulated and affects the rise and fall of governments is examined in case studies.

Usually offered every year.

Ms. Morgenthau

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Other advanced undergraduate courses may, subject to the approval of the graduate studies chair, be taken for graduate credit.

# Psychology

## Objectives

The graduate program in psychology leads to the degree of Doctor of Philosophy. The goal of the program is to develop competent research psychologists and teachers who will become contributors to knowledge in psychology. Toward this end, an emphasis is placed on research activity, starting in the first term of graduate study. The program of study reflects a belief that the student should develop an area of research specialization and also be exposed to a range of topics in general psychology. Dissertation supervision is available in the following areas: sensation, perception, memory and cognitive science, learning, comparative, developmental, life-span development and cognitive and social aging, personality, psychopathology, social psychology, linguistics.

## Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

An undergraduate major in psychology is not required. Students with inadequate preparation may make up their deficiencies during their first year but without residence credit. Students are admitted on a competitive basis, which includes evaluation of previous academic records, recommendations and results of the Graduate Record Examination (Aptitudes and Psychology Achievement Tests).

## Faculty

Associate Professor  
**Malcolm W. Watson**  
Chair.  
Developmental psychology.

Professor  
**Teresa M. Amabile:**  
Social psychology.  
Creativity.

Professor  
**Ray S. Jackendoff**  
Linguistics.  
Semantic theory.  
Music.  
Consciousness.

Professor  
**Raymond Knight:**  
Clinical psychology.  
Experimental psychopathology.

Professor  
**James R. Lackner**  
Director,  
Spatial Orientation Laboratory:  
Human experimental psychology.  
Psycholinguistics.

Professor  
**Joan Maling:**  
Linguistics.  
Syntactic theory.  
Historical syntax.  
Metrics.

Professor  
**Ricardo B. Morant**  
Chair,  
Program in Experimental/  
Physiological Psychology:  
Experimental psychology.  
Perceptual mechanism.  
Sensation and perception.

Professor  
**Robert Sekuler:**  
Visual perception.  
Aging.

Professor  
**James Todd:**  
Layout and motion perception.

Professor  
**Arthur Wingfield:**  
Human memory.  
Cognitive processes.

Professor  
**Leslie A. Zebrowitz:**  
Social psychology.  
Person perception.

Professor  
**Edgar Zurif:**  
Chair,  
Linguistics and Cognitive Science:  
Neurolinguistics.  
Psycholinguistics.

Professor  
Adjunct Professor  
**Ashton Graybiel**

Adjunct Professor  
**Marcel Kinsbourne**

Adjunct Professor  
**Leonard Saxe:**  
Social psychology.

Associate Professor  
**Maurice Hershenzon:**  
Visual space perception. Visual information processing.

Associate Professor  
**Marjorie Lachman:**  
Chair, Program in Social/  
Developmental Psychology:  
Life-span development.  
Adult personality.

Associate Professor  
**Jerome Wodinsky:**  
Comparative psychology.  
Learning theory.  
Sensory physiology.

Assistant Professor  
**D. Lynn Halpern:**  
Sensory physiology. Visual and auditory psychophysics.

Assistant Professor  
**Steven Kramer:**  
Infant perception and development.

Lecturer with rank of Assistant Professor  
**Joseph Cunningham:**  
Developmental psychopathology.

## Degree Requirements

### Doctor of Philosophy

#### Program of Study.

Although there is a three year minimum residency requirement, four years of full-time graduate study are usually required for the Ph.D. The student is expected to carry the equivalent of 16 credit units per term during residency.

#### Research.

Each student will devote one-quarter of his/her time to research the first term of the entering year. For all subsequent terms, students shall devote a minimum of one-half time to research.

### Research Reports.

Students will submit reports on their research for the preceding year, in journal form, in time to permit evaluation of the first project by the end of the third term, and of the second project by the end of the fifth term. Satisfactory completion of the research projects is required for continuation in the program. Students who have satisfactorily completed the research requirements will be permitted to continue their work toward the doctorate with no formal requirement of a master's degree.



<b>Course Requirements.</b>	<p>Entering students will take PSYCH 210a, PSYCH 315d and two advanced courses in the first term of residence, one advanced course and PSYCH 210b in the second term. After that they shall take two advanced courses each term in the second year and one each term thereafter until completion of qualifying examinations. Each term a student must take at least one graduate level course or seminar (100-level or above) that is not an Independent Readings or Research course. Only selected 100-level courses, determined by the psychology program, will count as advanced, graduate-level courses. Graduate level course selection will not be restricted to the psychology program but will be arranged by the student in consultation with the faculty advisor.</p>	<p>sensory processes, perception, comparative, learning, cognitive processes, personality, abnormal, developmental and social. Teaching assistant assignments will be based on course enrollments, with priority given to Introduction to Psychology, Statistics and Experimental Psychology.</p>
		<p>Language Requirement.</p> <p>There is no foreign language requirement.</p>
<b>Qualifying Examinations.</b>	<p>During the student's third year, he/she will be examined in the historical, theoretical and empirical literature related to the student's area of specialization, broadly conceived. The chair of the program, in consultation with the student and advisor, will appoint a three-member committee to administer the qualifying examination. The examination may be in either oral or written form. A student may petition the program to take the examination a second time if necessary.</p>	<p>Dissertation and Defense.</p> <p>Following the completion of all examinations, the student will prepare a prospectus of the proposed dissertation study in consultation with a faculty dissertation sponsor. The prospectus may be based on preliminary research conducted prior to the student's admission to candidacy for the doctorate. Upon approval by the faculty of the program, a dissertation committee of three or more members will be appointed by the program chair, including the dissertation sponsor as chair of the committee. The dissertation sponsor will be responsible for advising the student throughout the performance of his or her work, in consultation with the remaining members of the committee at appropriate times in the course of the work. From time to time, the committee will report the student's progress to the program faculty.</p>
<b>Breadth Requirement.</b>	<p>All graduate students must demonstrate breadth in the field of psychology. This breadth requirement is fulfilled by demonstrating competence in at least six of the nine areas listed below. The requirements may be satisfied in any of three ways:</p> <ul style="list-style-type: none"> <li>a. by having completed an undergraduate or graduate course in that area,</li> <li>b. by completing an undergraduate or graduate course offered in that area at Brandeis,</li> <li>c. by successfully passing the equivalent of any undergraduate final examination for that course.</li> </ul> <p>Of the six courses, a minimum of two should be taken from areas in Group A and a minimum of two from Group B.</p>	<p>The dissertation should provide evidence of originality, scholarship and research ability. It should be a contribution to knowledge, ordinarily an experimental investigation, but not necessarily so. Upon submission to the chair of the program of a copy of the dissertation, signed by all members of the dissertation committee and one member from outside of the University, and a successful defense of the dissertation before all members of the program, the award of the Ph.D. will be recommended to the Faculty Council of the Graduate School.</p>
	<p><b>Group A</b></p> <ol style="list-style-type: none"> <li>1. Physiological/Sensory Processes</li> <li>2. Perception</li> <li>3. Learning/Comparative</li> <li>4. Cognition/Memory</li> <li>5. Cognitive Science/Linguistics</li> </ol> <p><b>Group B</b></p> <ol style="list-style-type: none"> <li>1. Developmental</li> <li>2. Social</li> <li>3. Personality</li> <li>4. Abnormal</li> </ol>	<p><b>Master of Arts</b></p> <p>The psychology department offers a Master's Program in general psychology for part-time or full-time students. Full-time students are expected to complete the degree in one year. Students desiring to continue their studies toward the Ph.D. must apply for admission to that program.</p> <p><b>Course Requirements.</b></p> <p>The requirement for the degree will be eight courses as follows: two semesters of Advanced Psychological Statistics, one semester of Research Methodology, four courses from Social and Developmental and from Perception and Cognition as specified. Master's Project Readings to culminate in a Master's Thesis which is either an empirical research project or a comprehensive literature review.</p> <p>Applicants should specifically mention their interest in this program when they apply. Students in the Ph.D. program may petition for a Master of Arts degree upon completion of the following requirements: (1) one year minimum residency, (2) acceptable master's thesis, (an acceptable first-year research report will count as a master's thesis) and (3) completed breadth requirements.</p>
<b>Teaching Assistant Requirements.</b>	<p>Each student must work as a teaching assistant for a minimum of four courses, including Introduction to Psychology. Other courses in which the teaching assistant requirement may be fulfilled include: statistics, experimental, physiological,</p>	

## Courses of Instruction

Psychology 120b. <b>Man in Space</b>	Topics include how orbital flight is achieved, spacecraft life support systems, circulatory dynamics, sensory-motor control and vestibular function in free fall and the physiological and psychological adaptations necessary in space flight and how astronauts must readapt on return to Earth.  Usually offered every year.  Mr. Lackner	Psychology 138b. <b>Development of Play, Art and Creativity</b>	Integrates principles of human development and intrinsic motivation toward an understanding of how artistic creativity develops.  Usually offered in even years.  Ms. Amabile and Mr. Watson
Psychology 125a. <b>Advanced Topics in Perception and Adaptation</b>	Covers current issues and theories in vision, vestibular function, proprioception and adaptation to unusual force environments from both a psychological and biological perspective.  Usually offered every year.  Mr. Lackner	Psychology 139a. <b>Advanced Topics in Social Psychology</b>	Provides students with detailed information about theories and special topics of research in social psychology.  Usually offered every year.  Staff
Psychology 130b. <b>Life-Span Development: Adulthood and Old Age</b>	Seminar on advanced topics in life-span developmental theory and methodology. Substantive emphasis is on cognitive and personality changes that occur in the second half of life.  Usually offered in odd years.  Ms. Lachman	Psychology 145b. <b>Aging in a Changing World</b>	Psychological issues related to the aging processes are examined in a multidisciplinary perspective. Topics include intellectual functioning, memory loss, personality changes and physiological changes in later life.  Usually offered in odd years.  Ms. Lachman
Psychology 132b. <b>Cognitive Development</b>	A comparison of Piaget's theory of cognitive development and research with other major theories and research in cognitive development. Special emphasis is given to the development of causal thinking, symbolization, logical thinking and social cognition.  Usually offered in even years.  Mr. Kramer	Psychology 150b. <b>Organizational Psychology</b>	Covers the fundamentals of industrial/organizational psychology, including the topics of leadership, work motivation, organizational innovation, corporate culture, personnel selection, job evaluation and group dynamics. Materials fee: \$12.  Usually offered in even years.  Ms. Amabile
Psychology 135b. <b>Seminar in Social Cognition</b>	Considers the perception of traits and emotions from face, voice and gestural cues, with attention to stereotyping, accuracy and cultural and developmental differences.  Usually offered in even years.  Ms. Zebrowitz	Psychology 152a. <b>Experimental Psychology</b>	This laboratory lecture offers supervised practice in experimental construction, data analysis and interpretation and formal presentation of experimental results. Taught in multiple sections.  Usually offered every semester.  Mr. Wodinsky (Fall—Section 1)  Ms. Zebrowitz (Fall—Section 2)  Mr. Kramer (Spring)
Psychology 136b. <b>Advanced Topics in Developmental Psychology</b>	Provides students with detailed information about theories and special topics of research in developmental psychology.  Usually offered every year.  Messrs. Watson and Kramer	Psychology 153a. (LING 153a.) <b>Consciousness</b>	Explores the nature of conscious awareness and its relation to the mind and body. After going through the philosophical history of the mind-body problem, we discuss the role of consciousness in cognitive science.  Usually offered in even years.  Mr. Jackendoff

Psychology 154a. <b>Human Memory</b>	<p>Presents a systematic analysis of current memory research and theory as it sheds light on both normal memory and memory deficits following cerebral damage and in normal aging.</p> <p>Usually offered every year.</p> <p>Mr. Wingfield</p>	Psychology 161a. <b>Clinical Psychology Practicum I</b>	<p>Students must enroll in this course in order to enroll in PSYC 161b and should only enroll in this course if they are also able to enroll in 161b in the next semester.</p> <p>In conjunction with PSYC 161b, provides intensive supervised experience in mental health intervention. Students do clinical work eight hours per week and relate their experience to empirical and literary readings in weekly group supervision.</p> <p>Usually offered every year.</p> <p>Mr. Cunningham</p>
Psychology 155a. <b>Seminar in Visual Space Perception</b>	<p>Discusses major issues in perception.</p> <p>Usually offered every year.</p> <p>Mr. Morant</p>		
Psychology 156b. <b>Perceptual Development</b>	<p>Considers recent theories and experiments that investigate perceptual development of young infants. What does the infant know and when does he first know it?</p> <p>Usually offered in even years.</p> <p>Mr. Hershenson</p>	Psychology 161b. <b>Clinical Psychology Practicum II</b>	<p>In conjunction with PSYC 161a, provides intensive supervised experience in mental health intervention. Students do clinical work eight hours per week and relate their experience to empirical and literary readings in weekly group supervision.</p> <p>Usually offered every year.</p> <p>Mr. Cunningham</p>
Psychology 157b. <b>Models of Human and Machine Vision</b>	<p>Considers how a visual analysis of patterns of light can be used to determine the structures and movements of objects in the environment. An integrative approach to this problem is adopted, which surveys current research and theory from perceptual psychology, neurobiology and artificial intelligence.</p> <p>Usually offered in even years.</p> <p>Mr. Sekuler</p>	Psychology 165a. <b>Seminar in Experimental Psychopathology</b>	<p>Focuses on how researchers study deviant behavior and what they have learned about the causes and life courses of psychopathology. Focuses on two broad classes of psychopathology—sexual aggression and schizophrenia—and examines the interplay of biological and environmental variables that cause and sustain disordered behavior.</p> <p>Usually offered every third year.</p> <p>Mr. Knight</p>
Psychology 158b. <b>Visual Psychophysics</b>	<p>Covers current issues in spatial and binocular visual research. Modeling efforts in these areas are evaluated in light of known neurophysiology of the visual system.</p> <p>Usually offered in even years.</p> <p>Ms. Halpern</p>	Psychology 167b. <b>Schools of Psychotherapy</b>	<p>Theories and techniques of several schools of psychotherapy and behavior modification are considered. The theories of personality, methods of intervention, goals of therapy and relevant research are emphasized.</p> <p>Usually offered every year.</p> <p>Mr. Knight</p>
Psychology 160b. <b>Seminar on Sex Differences</b>	<p>Examines societal sex roles and beliefs about sex differences in light of evidence bearing upon actual sex differences in ability and/or personality, biological vs. social explanations for sex differences and motivational and cognitive biases in the perception of group differences.</p> <p>Usually offered in odd years.</p> <p>Ms. Zebrowitz</p>	Psychology 168a. <b>The Psychology of Creativity</b>	<p>Explores the foundations of modern theory and research on creativity and examines methods of stimulating creative thought and expression.</p> <p>Usually offered every year.</p> <p>Ms. Amabile</p>

Psychology 169b. <b>Disorders of Childhood</b>	Issues of theory, research and practice in the areas of child and family psychopathology and treatment are reviewed in the context of normal developmental processes.  Usually offered in even years.  Mr. Cunningham	Psychology 184b. (PHIL 141b) <b>Philosophy of Psychology</b>	See PHIL 141b. for description.  Usually offered in even years.  Mr. Samet
Psychology 172a. <b>Temporal Patterning of Behavior</b>	Concerns the way animals control and perceive spatially directed posture and movement. Topics range from the definition of optical, mechanical and acoustic information about orientation to how body orientation and motion with respect to these referents may be represented.  Usually offered in odd years.  Mr. Lackner	Psychology 185b. (PHIL 39b) <b>Philosophy of Mind</b>	See PHIL 39b for course description.  Usually offered every year.  Mr. Samet
Psychology 173a. (LING 173a.) <b>Psycholinguistics</b>	See LING 173a. for description.  Usually offered in even years.  Mr. Zurif	Psychology 193b. <b>Tests and Measurements</b>	Covers test theory, types of measurement, the theory and measurements of reliability and validity and test construction. The measurement of intelligence, achievement and personality are considered.  Usually offered in even years.  Mr. Knight
Psychology 175b. <b>Seminar in Sensory Physiology</b>	Concentrates on coding the visual and auditory systems, beginning with a detailed study of well-established anatomy and physiology and continuing with a discussion of more recent findings in each area. The readings are designed to link neurophysiological evidence with psychophysical observations.  Usually offered in odd years.  Ms. Halpem	Psychology 197a. (LING 197a.) <b>Language Acquisition and Development</b>	See LING 197a for special notes and course description.  Usually offered in even years.  Staff
Psychology 181b. <b>Language and Human Nature</b>	Language is often taken to be a quintessential human characteristic. We investigate the properties of language that have been discovered over the past 30 years and consider how these properties bear on other aspects of human intelligence and behavior. Topics include the innateness of language capacity, the nature of social knowledge and the evolution of mind.  Usually offered in odd years.  Mr. Jackendoff	Psychology 199a. <b>Neuropsychology</b>	Designed as an introduction to human neuropsychology. Topics include cerebral dominance and localization of function, with special reference to language and related mental function.  Usually offered every year.  Mr. Wingfield
Psychology 182b. (ANTH 161b.) <b>Culture and Cognition</b>	See ANTH 161b. for description.  Usually offered every year.  Mr. Murray	Psychology 202b. <b>Seminar in Human Spatial Orientation</b>	Usually offered in even years.  Mr. Lackner
		Psychology 203a. <b>Seminar in the Neuropsychology of Language</b>	Considers theories of brain-language relations.  Usually offered in odd years.  Mr. Zurif
		Psychology 205a. <b>Seminar in Perceptual Development</b>	A detailed analysis of recent experimental and theoretical literature on perceptual development.  Usually offered in odd years.  Mr. Hershenson
		Psychology 206b. <b>Computer Methods in Psychological Experimentation</b>	Usually offered in even years.  Mr. Zurif

Psychology 207b. <b>Seminar in Perception</b>	Examines the various aspects of visual information by which objects and events in three-dimensional space are perceived by human observers. Current research in both psychology and artificial intelligence is considered.  Usually offered in even years.  Staff	Psychology 213b. <b>Cognition and the Brain</b>	Usually offered every fourth year.  Staff
Psychology 208a. <b>Seminar in Cognitive Sciences</b>	Discusses philosophical foundations of cognitive science: what constitutes a mental representation and how representation is involved in processing and brain function.  Usually offered every year.  Mr. Zurif	Psychology 214a. <b>Seminar in Cognitive Aging</b>	Usually offered every two years.  Mr. Wingfield
Psychology 209a. <b>Advanced Seminar in Measurement Theory and Mathematical Modeling</b>	Usually offered every third year.  Staff	Psychology 216b. <b>Research Seminar in Cognitive Sciences</b>	In this seminar, students present and discuss their ongoing research.  Usually offered every year.  Staff
Psychology 210a. <b>Advanced Psychological Statistics I</b>	Probability and inferential statistics for experimental research. Rules of probability, random variables and their distributions, statistical inference, tests of hypotheses and confidence intervals for population means, principles of experimental design and the analysis of variance. Introduction to computer analysis using the SPSS and BMDP statistical packages.  Usually offered every year.  Mr. Cross	Psychology 218b. <b>Seminar in Social Cognition</b>	Research in impression formation and causal attribution. Causal attributions for one's own behavior as well as for other people's behavior are treated. Determinants of impression formation and causal attribution to be covered include social information, attention, motives and individual differences.  Usually offered every third year.  Staff
Psychology 210b. <b>Advanced Psychological Statistics II</b>	Statistical procedures for quasi- and non-experimental research. Correlation and regression, multiple regression, partial and multiple correlation, the analysis of contingency tables (cross-tabulations) and nonparametric statistics. Computer data analysis using SPSS and BMDP.  Usually offered every year.  Mr. Cross	Psychology 220–240a and b. <b>Courses in Research</b>	Usually offered every year.
Psychology 211b. <b>Seminar in Binocular Vision</b>	Usually offered in odd years.  Ms. Halpem	220a and b. <b>Research in Spatial Orientation</b>	Mr. Lackner
Psychology 212b. <b>Visual Psychophysics</b>	Usually offered every other year.  Ms. Halpem	221a and b. <b>Research in Semantics and Conceptual Structure</b>	Mr. Jackendoff
		222a and b. <b>Research in Human Spatial Orientation</b>	Mr. Morant
		224a and b. <b>Research in Speech Perception and Cognitive Processes</b>	Mr. Wingfield
		225a and b. <b>Research in Visual Space Perception</b>	Mr. Hershenson
		226a and b. <b>Research in Cognitive Processes and Psychopathology</b>	Mr. Knight
		227a and b. <b>Research in Neurolinguistics and Psycholinguistics</b>	Mr. Zurif

228a and b. <b>Research in Syntax and Comparative Germanic</b>	Ms. Maling	Psychology 300a. <b>Proseminar in Social and Developmental Psychology</b>	Offers an in-depth review of primary sources in several major topic areas of social and developmental psychology.  Usually offered in odd years.
229a and b. <b>Research in Person Perception</b>	Ms. Zebrowitz		Ms. Zebrowitz
230a and b. <b>Research in Animal Behavior</b>	Mr. Wodinsky	Psychology 301a and b. <b>Proseminar in Vision and Research Methodology for Vision and Perception</b>	Usually offered every year.  Staff
231a and b. <b>Research in Social Psychology</b>	Ms. Amabile		
232a and b. <b>Research in Developmental Psychopathology</b>	Mr. Cunningham	Psychology 302a. <b>Proseminar in Social and Developmental Psychology II</b>	Offers an in-depth review of primary sources in several major topic areas of social and developmental psychology.  Usually offered in even years.
234a and b. <b>Research in Life-Span Development; Adult Personality</b>	Ms. Lachman		Ms. Zebrowitz
236a and b. <b>Research in Developmental Psychology</b>	Mr. Watson	Psychology 304a. <b>Research Methodology for Developmental and Social Psychology</b>	Provides a comprehensive review of empirical methodology in social and developmental psychology including research ethics, hypothesis testing, experimental and quasi-experimental design, naturalistic observation, survey and evaluation research, clinical and applied research, data analysis, report writing and peer review procedures.  Usually offered in even years.
237a and b. <b>Research in Perceptual and Cognitive Development</b>	Mr. Kramer		Staff
238a and b. <b>Research in Metric and Phonological Theory</b>	Staff	Psychology 310b. <b>Topics in Data Analysis for Social Scientists</b>	Usually offered every third year.  Staff
240a and b. <b>Research in Sensory Physiology: Visual and Auditory Psychophysics</b>	Ms. Halpern	Psychology 315d. <b>Faculty Research Seminar</b>	Required of all first-year graduate students. Taught by all faculty members of the program, the course exposes students to faculty members' current research.  Usually offered every year.  Staff
Psychology 250a. <b>Advanced Research Project</b>	Usually offered every year.  Specific sections for individual faculty members as requested.  Staff		
Psychology 250b. <b>Master's Project Readings</b>	Usually offered every year.  Staff	Psychology 316a. <b>Social/ Developmental Psychology Research Seminar</b>	Required of all social/developmental graduate students who have not been admitted to candidacy.  Usually offered every year.
Psychology 280a and b. <b>Advanced Readings</b>	Offered every year.  Specific sections for individual faculty members as requested.  Staff		Mr. Watson

Psychology 318a. (COSI 310d.) <b>Seminar in Artificial Intelligence</b>	See COSI 310d. for description. Staff	Linguistics 122b. [ANTH 125b.] <b>Investigations in an Unfamiliar Language</b>	See ANTH 125b for description. Usually offered in even years. Ms. Irvine
Psychology 320a and b. <b>Advanced Tutorial in Spatial Orientation</b>	Usually offered every year. Mr. Lackner	Linguistics 125b. <b>Universal Grammar</b>	Explores the theory of language typology and universal grammar, focusing on the interaction between phonology and morphology. Topics focus on East Asian languages.  Usually offered every third year. Staff
Psychology 400d. <b>Dissertation Research</b>	Specific sections for individual faculty members as requested. Staff	Linguistics 130a. <b>Semantics</b>	Explores the semantic structure of language in terms of current linguistic theory. Topics include the nature of semantic representation, functional structure, presupposition and reference.  Usually offered in odd years. Mr. Jackendoff
<b>Courses and Seminars for Graduate Students and Advanced Undergraduates</b>		Linguistics 150b. <b>Introduction to Cognitive Science</b>	Considers how the mind is structured to represent and process information of relevance to language and other cognitive domains.  Usually offered every year. Mr. Zurif
Linguistics 100a. <b>Introduction to Linguistics</b>	A general introduction to linguistic theory and the principles of linguistic analysis. Students construct detailed analyses of data from English and other languages in the areas of syntax, semantics, phonetics and phonology and examine their implications for a theory of language as it is encoded in the human mind.  Usually offered every semester. Fall: Mr. Jackendoff Spring: Staff	Linguistics 153a. (PSYC 153a.) <b>Consciousness</b>	See PSYC 153a. for description. Usually offered every third year. Mr. Jackendoff
Linguistics 110a. <b>Phonological Theory</b>	An introduction to generative phonology, the theory of natural language sound systems. Includes discussion of articulatory phonetics, distinctive feature theory, the concept of a "natural class," morphology and the nature of morphophonemics and universal properties of the rules that relate morphophonemic and phonetic representations.  Usually offered every year. Staff	Linguistics 173a. (PSYC 173a.) <b>Psycholinguistics</b>	An introduction to modern psycholinguistics with an emphasis on language comprehension and production. Questions concerning species-specificity and the neurological organization of language are included for consideration.  Usually offered in even years. Mr. Zurif
Linguistics 120b. <b>Syntactic Theory</b>	Extends the syntactic framework developed in the introductory course through the study of such problems as the complement system and constraints on transformations, with emphasis on their relevance to universal grammar.  Usually offered every year. Ms. Maling	Linguistics 181b. <b>Language and Human Nature</b>	Usually offered every two years. Mr. Jackendoff

Linguistics 197a.  
**Language  
Acquisition and  
Development**

When a child knows a language he/she has successfully constructed a grammar of it; in the course of constructing the grammar the child must form hypotheses about the language and test them against the available data. The central problem of language acquisition is to explain what makes this formidable task possible. We study theories of language acquisition, basing our conclusions on recent research in the development of syntax, semantics and phonology. The overall goal is to arrive at a coherent picture of the language learning process.

Usually offered in even years.

Staff

Linguistics 199a  
and b.  
**Directed Research**

Usually offered every year.

Staff

**Seminars for Graduate Students**

Linguistics 215b.  
**Phonology**

Recent developments in phonological theory, with special emphasis on prosodic phonology including autosegmental theories of tone, nonlinear morphology and phonology and metrical theories of stress. Required of first-year graduate students in linguistics and cognitive science.

Usually offered every year.

Staff

Linguistics 217b.  
**Topics in Phonology**

Topics drawn from recent research in metrical, autosegmental and lexical phonology. Requirements include a class presentation and a research paper. Material varies from year to year.

Usually offered every year.

Staff

Linguistics 225b.  
**Syntax**

Recent developments in syntax, including such topics as constraints on rules, trace theory, government and binding and lexical-functional grammar. Required of first-year graduate students in linguistics and cognitive science.

Usually offered every year.

Ms. Maling

Linguistics 226a.  
**Topics in Syntax**

Current issues in the theory of syntax, focusing on research in government binding theory and lexical functional grammar. Topics vary from year to year but generally include anaphora, extraction, bounding conditions and lexical representation.

Usually offered every year.

Staff

Linguistics 236a.  
**Topics in Semantics**

Current issues in the theory of conceptual structure and its relation to syntax.

Usually offered every year.

Mr. Berger

Linguistics 240a.  
**Field Methods**

Working with a native speaker language consultant, the students investigate the phonology and syntax of a language unfamiliar to them. The students gain expertise in linguistic analysis through exploring the hypotheses of current theory in a new language context.

Usually offered in even years.

Staff



# Sociology

## Objectives

The graduate program in sociology is primarily a doctoral program and is designed for students who intend to devote themselves to teaching and research in sociology. The student may, by satisfying certain requirements, receive the M.A. degree. The general objective is to educate students in the major areas of sociology with specialization in several of them.

## Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to the sociology program.

In addition, all prospective students are required to submit written material (papers, etc.) representative of their best work, which need not be, however, of a sociological nature.

## Faculty

Professor  
**Irving Kenneth Zola**  
Chair:  
Sociology of health and illness.  
Disability studies.  
Deviance. Field methods.

Professor  
**Peter Conrad**  
Sociology of health and illness.  
Deviance. Field methods.

Professor  
**Shulamit Reinhartz**:  
Qualitative research methods.  
Social gerontology.  
Feminist research.  
Social psychology.  
Group dynamics.  
History of women's contributions to sociology.

Professor  
**George W. Ross**:  
Political sociology.  
Social theory.

Professor  
**Maurice R. Stein**:  
Communities.  
Culture.  
Counseling.  
Consciousness.

Associate Professor  
**Gordon Fellman**:  
Marx and Freud.  
Social stratification.  
Peace studies.

Associate Professor  
**Charles S. Fisher**:  
Technology and environment.  
Social psychology of consciousness.

Associate Professor  
**Gila J. Hayim**:  
Sociological theory. Critical theory.  
Post-modern theory and existential sociology. Legal studies.

Associate Professor  
**Michael W. Macy**:  
Quantitative methods. Political sociology. Class and stratification.

Associate Professor  
**Carmen Sirianni**:  
Work.  
Organizations.  
Theory. Time.  
Comparative sociology. Political sociology.

Assistant Professor  
**Karen V. Hansen**:  
Feminist theory.  
Sociology of the family. Historical sociology.

Professor Emeritus  
**Egon Bittner**:  
Social theory.  
Sociology of law.

Professor Emeritus  
**Morris S. Schwartz**:  
Social psychology.

Professor Emeritus  
**Kurt H. Wolff**:  
Sociology of knowledge.

## Degree Requirements

### Master of Arts

#### Program of Study.

Students must complete six semester courses. Ordinarily, M.A. students will take a graduate course in social theory. Each student will devise a specialized program with a faculty advisor who will be assigned upon the student's acceptance to the department. The student's program must be approved by the Graduate Committee at the beginning of the first semester of residence. Most course work will be at the graduate level in sociology unless otherwise approved by the student's advisor and the Graduate Committee. The proseminar may be taken, but will not count as one of the six required courses. Transfer credit will not count toward an M.A. degree. Students must also submit and receive approval of two major papers written during residence in the department. These papers may arise out of course work taken in the department and may be used to fulfill the requirements for those courses.

#### Residence Requirement.

The minimum residence requirement is one year.

### Language

#### Requirement.

There is no foreign language requirement for the master's degree.

### Doctor of Philosophy

#### Program of Study.

Students entering the Ph.D. program in sociology are expected to undertake a two-year program of course work, as a part of which they are obliged to take the program's proseminar (SOC 290a). The initial program of studies will be arranged in consultation with the graduate student's advisor. Consideration will be given to graduate work done elsewhere but formal transfer credit will be assigned only after the successful completion of the first year of study.

#### Residence Requirements.

The minimum residence for the degree of Doctor of Philosophy is three years.

#### Language Requirements.

There is no foreign language requirement for the Ph.D. degree.

Qualifying Examinations.	During a student's residency, the specific planning, evaluation and accreditation of his/her entire course of study will be in the hands of each student's Guidance-Accreditation Committee, comprised of three faculty members. Along with the student, this committee will lay out a general course of study designed to meet the interests and needs of the student. Upon completion of this course of study, the student will take an oral qualifying examination covering both general sociology and the areas of the student's special interests. The committee will report at least once a year to the Graduate Committee on the progress of the student, who is urged to fulfill accreditation by the end of his/her third year of residence.	Dissertation and the Final Oral Examination.	The Ph.D. dissertation may be accepted by the program upon the recommendation of the Dissertation Committee. To be granted the degree, the student is required to defend the dissertation in a public Final Oral Examination.
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## Courses of Instruction

Sociology 102a. <b>Social Psychiatry</b>	Training in peer counseling is offered through classes, supervised sessions with other students and community work.  Usually offered every year.  Mr. Stein	Sociology 106a. <b>Issues in Law and Society</b>	An interdisciplinary approach to the study of crime and punishment. We analyze theories and empirical research around a number of problem areas in the criminal justice system, with special attention paid to the courts, the prison and the correction systems.  Usually offered every year.  Ms. Hayim
Sociology 103a. <b>The Sociology of Mental Illness and Health</b>	Concerns itself with various sociological and psychological perspectives on the causes, nature and treatment of mental illness.  Usually offered every third year.  Mr. Conrad	Sociology 108b. <b>Critiques of Contemporary Society</b>	Discusses methods of social inquiry and criticism and their application to contemporary problematics in technology, communication systems, feminism, the environment and ecology. An evaluation of the poststructural debate around these issues is also included. Marcuse, Ellul, Foucault, Weedon, Bellah and others are considered.  Usually offered every year.  Ms. Hayim
Sociology 104a. <b>Sociology of Education</b>	Examines the role of the institution of education as a force for social change versus the idea that education's function is to reinforce prevailing social conditions.  Usually offered in odd years.  Mr. Stein	Sociology 110b. <b>Sociology of Knowledge</b>	History and historical interpretation of the sociology of knowledge, with particular emphasis on German and recent American literature.  Usually offered in odd years.  Mr. Wolff
Sociology 105a. <b>Feminist Critiques of Society</b>	Critically evaluates the predominant theoretical approaches to understanding the oppression of women and the dynamics of sexism, racism and classism within the sex/gender system. Uses these perspectives to explore women's lives that often result in their subordination.  Usually offered every year.  Ms. Hansen	Sociology 111a. <b>Political Sociology</b>	Examines the relationship between society and politics, social processes and political change. A critical analysis of the major concepts and alternative theories is presented and their relevance to advanced Western societies (particularly the United States) is discussed.  Usually offered every fourth year.  Last offered Fall 1990.  Staff

<b>Sociology 112b. Social Class, Freedom and Equality</b>	Presents the role of social class in determining life chances, life-styles, income, occupation and power; theories of class, inequality and imperialism; and selected social psychological aspects of social class and inequality.  Usually offered in odd years.  Mr. Fellman	<b>Sociology 118b. (NEJS 164b.) The Sociology of the American Jewish Community</b>	See NEJS 164b. for description.  Usually offered every year.  Staff
<b>Sociology 114b. Society and Economy: Sociological Theories of Advanced Capitalism</b>	A review of modern social theories about the production and reproduction of advanced capitalist economies and social orders, focusing on the specification of and relationships between major social groups, productive organizations and the market in dynamic perspective.  Usually offered every year.  Mr. Ross	<b>Sociology 119a. War and Possibilities of Peace</b>	Reviews consequences of militarism for American society and issues of global interdependence, focusing on political-economic, feminist and social psychological matters; national security, nonviolence and international relations; and ecofeminist and environmental issues. Emphasizes the possibility of major "paradigm shift."  Usually offered every year.  Mr. Fellman
<b>Sociology 115a. Class Structure and Consciousness</b>	Explores the role of property, authority and knowledge in structuring class inequality and consciousness. Special emphasis is placed on the role of education and the expansion of intellectual labor. Has education supplanted property in status inheritance as well as attainment? Is "meritocracy" incompatible with class inequality or would it further entrench it?  Usually offered every year.  Mr. Macy	<b>Sociology 121b. Mass Media and Social Reality</b>	Through an examination of the history and development of contemporary media, including television, films, print media, etc., we explore the impact of mass media on everyday life. Questions of audience, politics and ideology, aesthetics and the structure of the culture industry as they perpetuate and create images of "social reality" are also examined.  Usually offered in odd years.  Mr. Zola
<b>Sociology 116b. Comparative Race and Ethnic Relations</b>	Explores and understands the origin and nature of racial and ethnic differences as they manifest themselves in different human societies. We explore how theoreticians explain and account for that difference and define and use it as a basis to change the content of their daily lives.  Usually offered every year.  Staff	<b>Sociology 123b. Crisis of the Welfare State</b>	Cross-national comparisons of the growth and impact of the welfare state are used to illuminate larger theoretical questions about the compatibility, complementarity and tension between capitalism and democracy. Have democratic pressures gone "too far," paralyzing the "invisible hand"?  Usually offered in even years.  Mr. Macy
<b>Sociology 117a. Work and Society</b>	Work and its transformation in postindustrial society. Dynamics of power and inequality in workplace organization and labor markets. Production, service and professional settings. New technologies, participative management, corporate culture and team organization. Crisis of trade unionism and innovative responses.  Usually offered every year.  Mr. Sirianni	<b>Sociology 125b. Land Tenure and Peasant Struggles in Latin America/ Caribbean</b>	Examines the relationship between the ownership, use and control of land and the ability of "Third World" governments to satisfy the food and agricultural needs of their populations. Emphasis is placed upon the history of land policies, the role of multinationals, the nature of rural class structures, the emergence of peasant movements and the alternative organizations of socialist agriculture.  Usually offered every year.  Staff
<b>Sociology 118a. (NEJS 161a) American Jewish Life</b>	See NEJS 161a. for description.  Usually offered every year.  Staff		

<b>Sociology 129a. Inequality and Social Identity</b>	Uses a series of ethnographic case studies to introduce a series of related controversies about the ways in which racial, gender and class inequalities shape social identities, interests and conflicts. Students then investigate these arguments using primary materials, gaining knowledge not simply from books and lectures but by actually "doing sociology."	<b>Sociology 134a. Women and Intellectual Work</b>	This research-oriented course investigates the history of selected U.S. and British female social scientists of the late 19th and early 20th centuries. We examine why their work has been ignored or labelled as "not sociology" and how sociology has been defined on the basis of work done by men. We study women of color and white women, heterosexual and lesbian women.
	Usually offered every year.		Usually offered every year.
	Mr. Macy		Ms. Reinharz
<b>Sociology 130a. Families</b>	Investigates changes in the character of American families over the last two centuries. A central concern is the dynamic interactions between economic, cultural, political and social forces and how they shape and are reshaped by families over time. Particular attention is paid to how experiences of men and women vary by class, race and ethnicity.	<b>Sociology 135a. Group Process</b>	Interpretation of interpersonal behavior and group development, based in part on observation of the group itself. Readings will include material from psychology and social anthropology as well as sociology. Offered in multiple sections.
	Usually offered every year.		Usually offered every year.
	Ms. Hansen		Ms. Reinharz and Mr. Schwartz
<b>Sociology 131b. Women's Biography and Society</b>	Through the biographies and autobiographies of women intellectuals, scientists, political leaders, artists and "ordinary" women, this seminar investigates the relationship between women's everyday lives, history and the sex/gender system.	<b>Sociology 141a. Marx and Freud</b>	Examines Marxian and Freudian analyses of human nature, human potential, social stability, conflict, consciousness, social class and change. Includes attempts to combine the two approaches.
	Usually offered every year.		Usually offered every year.
	Ms. Hansen		Mr. Fellman
<b>Sociology 132a. City Limits: An Introduction to Urban Sociology</b>	Applies alternative theories of urban politics (elite theory, Marxian structuralism and pluralism) to case studies from New York, Detroit, Dallas, Boston and Atlanta.	<b>Sociology 144b. Sociopsychological Dimensions of the Arms Race</b>	We will read the literature in, discuss and critically evaluate the sociopsychological theories, speculations, interpretations and conceptualizations that explain and try to understand the arms race.
	Usually offered in every third year.		Usually offered in odd years.
	Last offered Fall 1988.		Mr. Schwartz
	Mr. Macy	<b>Sociology 147a. Organizations and Social Change</b>	Critical analysis of bureaucratic organizations. Innovation and change in school systems, social services, corporations, non-profits, military-industrial complex, federal bureaucracies, high-risk systems. Dynamics of democratic, feminist, multicultural and community organizations.
<b>Sociology 133a. Survival and Sociology: The Idea of Surrender-and- Catch</b>	How can we justify doing sociology given humanity's unprecedented situation: the capacity to destroy itself and its planet? "Surrender-and-Catch" is offered as one possible response. "Surrender" is the most immediate contact with a topic exploration possible; "catch" is its result.		Usually offered every year.
	Usually offered every fourth year.		Mr. Sirianni
	Will be offered Fall 1992.	<b>Sociology 148a. Social Psychology of Consciousness I</b>	An exploration into the social psychology of experiences which have been central to religious life. Prayer, contemplation, meditation, devotion, ecstasy and service are examined in traditional and nontraditional settings.
	Mr. Wolff		Usually offered every year.
			Mr. Fisher

<b>Sociology 148b. Social Psychology of Consciousness II</b>	<p>Explores various senses of the self and society as described in both contemporary social psychology and traditional Eastern culture. Focus will be on knowing the world in terms of the self's relation to it as exemplified in sociological fieldwork and meditation.</p> <p>Usually offered every year.</p> <p>Messrs. Fisher and Stein</p>	<b>Sociology 164a. Existential Sociology</b>	<p>Introduces existential thought in relation to the discipline of sociology and evaluates selected theories on human nature and interaction, individual freedom and social ethics, the genesis and fate of the modern human group, types of authority, etc.</p> <p>Usually offered every year.</p> <p>Ms. Hayim</p>
<b>Sociology 151b. Environmental Research: Wellness on Campus</b>	<p>Provides students with an opportunity to do firsthand research. This is usually in terms of a specific research project. Qualitative research techniques are presented along with appropriate methods for data analysis. Current project focuses on health and wellness.</p> <p>Usually offered in even years.</p> <p>Mr. Conrad</p>	<b>Sociology 165a. Sociology of Birth and Death I</b>	<p>Explores the ways in which different societies shape the human experience of birth and death. Topics include Eastern attitudes toward birth and death, the Holocaust and nuclear war, the social implications of medical technologies and the home birth and hospice movements.</p> <p>Usually offered every third year.</p> <p>Last offered Fall 1989.</p> <p>Mr. Stein</p>
<b>Sociology 155b. Protest, Politics and Change: Social Movements</b>	<p>Examines "new social movements" such as the civil rights movement, the Greens, the new feminism and others in the light of different social science theories and explanatory techniques.</p> <p>Usually offered in even years.</p> <p>Mr. Ross</p>	<b>Sociology 165b. Sociology of Birth and Death II</b>	<p>Prerequisite: Sociology 165a. A continuation of Sociology 165a.</p> <p>Usually offered every third year.</p> <p>Last offered Spring 1990.</p> <p>Mr. Stein</p>
<b>Sociology 157a. Sociology of the Israeli-Palestinian Confrontation</b>	<p>An introduction to Jewish and Palestinian nationalisms; relevant sociological, political, religious, resource and population issues; social psychological dimensions; and the conflict in world politics.</p> <p>Usually offered in odd years.</p> <p>Mr. Fellman</p>	<b>Sociology 171a. Black and Third World Women</b>	<p>Examines the position of black women and women of color within the context of certain political, economic, social and cultural transformations occurring in the Third World and the United States. Aims at understanding the similarities and differences among these contexts.</p> <p>Usually offered every year.</p> <p>Staff</p>
<b>Sociology 161a. Society, State and Power</b>	<p>Examines the ways in which power is exercised in different political regimes and social systems. The major focus of the course is present-day advanced industrial societies, with particular consideration of the United States. Contrasts are drawn with Soviet-type societies.</p> <p>Usually offered every year.</p> <p>Mr. Ross</p>	<b>Sociology 173b. Contemporary Social Problems</b>	<p>We will deal with a selected group of social problems, among which will be: (a) the social deterioration of the cities, (b) the onslaught of information and misinformation, (c) the troubles of consumerism, (d) the burdens of racism and poverty, (e) old age and social isolation.</p> <p>Usually offered in odd years.</p> <p>Staff</p>
<b>Sociology 162a. Phenomenology and Sociology: Alfred Schutz</b>	<p>Introduces the significance of phenomenology, as presented by Alfred Schutz, for sociology, especially in regard to the grasp of the world of everyday life and other "worlds." Pays particular attention to problems of changing the former in light of humanity's unprecedented situation today.</p> <p>Usually offered every third year.</p> <p>Last offered Fall 1991.</p> <p>Mr. Wolff</p>	<b>Sociology 174b. Technology and Environment</b>	<p>From an examination of the character of tools, machines and science-based technology, this course will look at the effects of human economic activities on nature. Examples may include forest, water, waste, disaster, wilderness and alternative paths.</p> <p>Usually offered in even years.</p> <p>Mr. Fisher</p>

<b>Sociology 175b. Agriculture and Environment</b>	<p>Using concepts from sociology and natural and environmental history, we examine food systems from hunter-gatherers to McDonald's hamburgers, with special reference to effects on the environment.</p> <p>Usually offered in odd years.</p> <p>Mr. Fisher</p>	<b>Sociology 188b. Sociology of Law</b>	<p>The legal order considered in a framework of crosscultural and historical comparison. The role of the instruments of the law and of the administration of justice in contemporary society.</p> <p>Usually offered every year.</p> <p>Mr. Bittner</p>
<b>Sociology 176a. Nature, Nurture, and Public Policy</b>	<p>This course examines the impact of heredity or genetic theories of human problems on developing public policy, including the viability and validity of theories and evidence. Historical and contemporary cases are examined such as gender, IQ, mental illness and alcoholism.</p> <p>Usually offered every year.</p> <p>Mr. Conrad</p>	<b>Sociology 190b. On the Caring of the Medical Care System</b>	<p>An analysis of the structural arrangements of medical practice and medical settings, focusing on the societal and professional response to illness.</p> <p>Usually offered every year.</p> <p>Mr. Conrad</p>
<b>Sociology 177b. Aging in Society</b>	<p>Explores the social context of old age by using sociological theory. We examine such topics as aging in residential settings, the aging experience of minority groups, the economics of aging and crime against the elderly. We also examine the definition of old age in other societies in order to understand the contemporary Western response to aging.</p> <p>Usually offered every year.</p> <p>Ms. Reinharz</p>	<b>Sociology 191a. Health, Community and Society</b>	<p>An exploration into interrelationships between society, health and disease, emphasizing both the social causes and experience of illness.</p> <p>Usually offered every year.</p> <p>Mr. Conrad</p>
<b>Sociology 178a. Sociology of the Professions</b>	<p>An introduction to the professions in American society, from law and medicine to the public service, academic and business professions. Topics include the structure of careers and professional organizations, the schooling process, personal and family stress, bureaucratic work, relation to clients and government and alternative forms of professional work.</p> <p>Usually offered in odd years.</p> <p>Staff</p>	<b>Sociology 192b. Sociology of Disability</b>	<p>In the latter half of the 20th century, disability has emerged as an important social-political-economic-medical issue, with a distinct history characterized as a shift from "goodwill to civil rights." We trace that history and the way people with disabilities are seen and unseen and see themselves.</p> <p>Usually offered every year.</p> <p>Mr. Zola</p>
<b>Sociology 181a. Quantitative Methods of Social Inquiry</b>	<p>Introduces students to causal logic and quantitative reasoning and research. Emphasis is on conceptual understanding, not mathematical derivations, with hands-on applications using desktop computers. No statistical or mathematical background is necessary.</p> <p>Usually offered every year.</p> <p>Mr. Macy</p>	<b>Sociology 195b. Group Solidarity</b>	<p>Why are some willing to sacrifice for the "greater good" while others remain indifferent, pursuing mainly private concerns? Does human rationality promote or obstruct group solidarity? Alternative theories are applied to case studies including the Temperance Movement, reproductive rights, the New Right, religious cults and utopian communities.</p> <p>Usually offered every year.</p> <p>Mr. Macy</p>
		<b>Sociology 196b. Seminar: Writing and the Social Sciences</b>	<p>Examines the range of writing in the social sciences, both "popular" and "scholarly," including journal articles, dissertations, books, magazine articles, newspaper columns and life studies. Students write and exchange feedback on short pieces, with visits by social scientists, writers and editors.</p> <p>Usually offered in odd years.</p> <p>Mr. Zola</p>

<b>Sociology 200a. Classical Sociological Theory</b>	Critical readings of the sociologies of Marx, Weber and Durkheim.  Usually offered in even years.  Staff	<b>Sociology 205a. Sexual Stratification: Historical and Comparative Perspectives</b>	Usually offered every third year.  Staff
<b>Sociology 200b. Contemporary Social Thought</b>	Examination of American and European social thought; system and conflict theory, cultural studies, phenomenological sociology, critical theory and poststructural thought.  Usually offered in odd years.  Mr. Stein	<b>Sociology 206b. The Family</b>	Studies the evolution of the Western European and American families and the historical processes that have shaped them, especially industrial capitalism, slavery and immigration. Explores various controversies regarding the family: the family as an economic unit vs. a group of individuals with varying experiences; the effects of the shift of activity from primarily production to consumption; increased privatization vs. increased public intervention; recent changes in family structure and fertility patterns and resolution of the double burden associated with the second shift for women.  Usually offered every third year.  Staff
<b>Sociology 201a. Classical and Critical Theory</b>	Examines major contributions in the history of sociological thought and identifies critical connections between the classical statements and the modern arguments, from Weber to Habermas and from Levi-Strauss to Foucault.  Usually offered every year.  Ms. Hayim	<b>Sociology 207a. Feminist Theory</b>	Reviews the primary schools of feminist theory, exploring how well each perspective explains the subordination of women. Examines key contemporary controversies that challenge the various perspectives: how to best integrate the study of race, class and gender; the issue of difference; the compatibility of postmodernism and feminist theory; the universalism debate and postcolonial discourses. Assesses the direction of feminist theory in the 1990s.  Usually offered in even years.  Staff
<b>Sociology 202a. Quantitative Research Methods</b>	Designed to involve students in survey and archival data collection and analysis. Technical training is coupled with explorations of methodological issues centering on the integration of theory and empirical research. Through hands-on assignments, students learn to use a variety of modeling techniques and associated computer software. Although the methods are quantitative, the emphasis is not on their mathematical derivation but on conceptual understanding and hands-on (user friendly) application. No statistical background is presumed.  Usually offered in odd years.  Mr. Macy	<b>Sociology 208a. Seminar in the Sociology of Organization</b>	Examines classical and contemporary organizational theory primarily through case studies of contemporary organizations in a variety of settings: private corporations, unions, street-level bureaucracies, federal agencies, high-risk technology systems, universities, democratic collectives and social change organizations. Critical analysis of issues of power, gender and opportunity; participation is a focus throughout.  Usually offered in odd years.  Mr. Sirianni
<b>Sociology 203b. Field Methods</b>	The methodology of sociological field research in the qualitative research tradition. Readings include theoretical statements as well as experiential accounts of researchers in the field. Includes exercises in specific methods and procedures of data collection (participant observation, interviewing, collaborative research, systematic observation, oral history) and data analysis. Focuses on the student's completion of his/her own research project and functions as a support group to aid in its completion.  Usually offered every year.  Ms. Reinharz	<b>Sociology 209b. Class and Politics</b>	Usually offered every fourth year.  Staff
<b>Sociology 204a. Sociology and History</b>	Usually offered every third year.  Staff	<b>Sociology 210a. The Sociology of Development and Underdevelopment</b>	Usually offered every third year.  Staff

<p>Sociology 212a. <b>Topics on Women and Development</b></p>	<p>We examine the relationship between the "development" process and the continued subordination of women in Third World countries. The "development" rhetoric that evolved within major international agencies (U.S.A.I.D., World Bank) is contrasted with the ways in which women have actively structured their lives. Emphasis is placed on women's position in production and reproduction and relationships among the domestic unit, class structure and the larger political economy. Our approach is multidisciplinary and cross-cultural with a focus on Asia, Africa and Latin America/Caribbean.</p> <p>Usually offered in odd years.</p> <p>Staff</p>	<p>Sociology 218a. <b>Advanced Topics in Social Theory and Methods: Surrender and Catch</b></p> <p>"Surrender" is the most immediate contact with a topic being studied or a situation or individual being encountered; "catch" is its outcome. We explore the relation between the idea of surrender-and-catch and the crisis of mankind from which it springs and trace affinities with other recent currents in the social sciences and philosophy.</p> <p>Usually offered in even years.</p> <p>Mr. Wolff</p>
<p>Sociology 214a. <b>Topics in Social Psychology: Freud and the Freudian Tradition</b></p>	<p>A study of Freud as a major social theorist. The role of motivation, body, sexuality, dreams, ambivalence, repression, transference, childhood, psychosexual development and psychosocial development in understanding social organization and social dynamics and change.</p> <p>Usually offered every third year.</p> <p>Mr. Fellman</p>	<p>Sociology 218b. <b>Advanced Topics in Social Theory and Methods</b></p> <p>Usually offered every third year.</p> <p>Staff</p>
<p>Sociology 215b. <b>Participation, Power and Social Change</b></p>	<p>Participation in political and social theory: pluralist, feminist, communitarian, postmodern, economic (exit/voice), radical and critical theory. Case studies from student, women's, environmental and other movements, Community Action, Alinsky and post-Alinsky community organizing (poverty, race and urban development), citizen participation in planning and state agencies, worker participation, town meeting democracy, revolution and postrevolutionary reform.</p> <p>Usually offered in odd years.</p> <p>Mr. Sirianni</p>	<p>Sociology 219a. <b>Social Systems and Political Forms</b></p> <p>Usually offered every third year.</p> <p>Staff</p>
<p>Sociology 216b. <b>The Frankfurt School and Critical Theory</b></p>	<p>Analyzes the foundations of critical theory and evaluates its reformation of the concepts and prospects of social change. Readings include Hegel, Gramsci, Lukacs, Marcuse, Habermas, Offe and Sartre.</p> <p>Usually offered in even years.</p> <p>Ms. Hayim</p>	<p>Sociology 219b. <b>Advanced Topics in Political Sociology: Social Movements</b></p> <p>Different contemporary approaches to the study of social movements are reviewed, including collective behavior, rational action, resource mobilization and European "new social movements" theory. Empirical monographs about specific social movements are considered.</p> <p>Usually offered in odd years.</p> <p>Mr. Ross</p>
<p>Sociology 217a. <b>Problems and Issues in the Sociology of Health and Illness</b></p>	<p>Offers a socio-cultural-historical-political perspective on the study of problems of health and illness. We accomplish this by examining some of the basic assumptions underlying the way we conceive of and study issues in health care. The written assignments include a health diary, a text analysis and a book review.</p> <p>Usually offered every third year.</p> <p>Mr. Zola</p>	<p>Sociology 220b. <b>Seminar on the Sociology of Politics</b></p> <p>A survey of the contemporary movements in the sociology of politics of advanced societies. Topics include pluralist and group theories, elite theory, behavioralism and voting studies, the theory of the state debate (neo-Marxist and neo-liberal variants), the "new institutionalism," theories of social movements and rational choice modeling.</p> <p>Usually offered in even years.</p> <p>Mr. Ross</p>
<p>Sociology 216b. <b>The Frankfurt School and Critical Theory</b></p>	<p>Analyzes the foundations of critical theory and evaluates its reformation of the concepts and prospects of social change. Readings include Hegel, Gramsci, Lukacs, Marcuse, Habermas, Offe and Sartre.</p> <p>Usually offered in even years.</p> <p>Ms. Hayim</p>	<p>Sociology 221a. <b>Advanced Topics in Sociological Theory: French Social Thought Since 1945</b></p> <p>French social theory since 1945 is reviewed in the context of French social history and the sociology of intellectuals. Readings include Existentialists-Marxists (Sartre, Merleau-Ponty), Structuralists (Levi-Strauss, Althusser, Poulantzas), Liberals (Aron, Crozier, Boudon and others) and post-1968 figures such as Michel Foucault, Alain Touraine and Pierre Bourdieu.</p> <p>Usually offered every third year.</p> <p>Mr. Ross</p>
<p>Sociology 217a. <b>Problems and Issues in the Sociology of Health and Illness</b></p>	<p>Offers a socio-cultural-historical-political perspective on the study of problems of health and illness. We accomplish this by examining some of the basic assumptions underlying the way we conceive of and study issues in health care. The written assignments include a health diary, a text analysis and a book review.</p> <p>Usually offered every third year.</p> <p>Mr. Zola</p>	<p>Sociology 221b. <b>Topics in the Sociology of Religion</b></p> <p>Usually offered every fourth year.</p> <p>Staff</p>



**Sociology 222b.  
Society and Health  
Promotion**

Examines rise and development of prevention and health promotion in American society. Examines various aspects of the health promotion phenomenon: the emergence of the risk factors paradigm, the wellness movement, government policy (e.g., Surgeon General's Report), research on community and individual intervention and worksite health promotion. The emphasis is on a sociological understanding of health promotion, especially in terms of its emergence, various manifestations and social consequences.

Usually offered in odd years.

Mr. Conrad

**Sociology 223a.  
Sociology of Work**

The organization of work in contemporary society, with an emphasis on the United States and other advanced industrial or postindustrial societies (West Europe and Japan). Some limited discussion of work in less developed societies. Topics include forms of control, the deskilling debate, the impact of new technologies, gender and race, labor market segmentation, comparable worth, families and work, service work, the psychodynamics of work in postindustrial society, informal economy, new forms of flexibility, crisis of trade unions and future of work.

Usually offered in even years.

Mr. Sirianni

**Sociology 224b.  
Class and  
Stratification**

Confronts the "mainstream" tradition of stratification research with Marxist class theory, placing particular emphasis on the research methodologies implied by and characteristic of these contending analytic frameworks. Students are expected to engage in small, term-long research projects informed by the theoretical and methodological issues that emerge from the readings and discussions.

Usually offered in even years.

Mr. Macy

**Sociology 225a.  
Deviance: Theories  
and Research**

Usually offered every fourth year.

Staff

**Sociology 226a.  
Theories in Social  
Psychology**

An examination of some major theorists of self and society, social interaction and interpersonal relations. Theorists considered include Cooley, Mead, Sullivan, Goffman, Buber and others.

Usually offered in even years.

Mr. Schwartz

**Sociology 228a.  
Themes in  
Sociological  
Theory—Phenomenology and Sociology:  
Alfred Schutz**

An introduction to phenomenology and its significance for sociology by an intensive study of selective writings of Alfred Schutz.

Usually offered every fourth year.

Mr. Wolff

**Sociology 230a  
and b.  
Readings in  
Sociological  
Literature**

Usually offered every year.

Specific sections for individual faculty members as requested.

Staff

**Sociology 290a.  
Proseminar**

A seminar meeting once a week in which faculty members introduce their interests and research. Required of all first-year graduate students. Other graduate students are welcome to attend.

Usually offered every year.

Mr. Zola

**Sociology 401d.  
Dissertation  
Research**

Independent research for the Ph.D. degree.

Specific sections for individual faculty members as requested.

Staff

# Theater Arts

## Objectives

In a time of shifting fashions in the performing arts, the M.F.A. Professional Theater Training Program at Brandeis focuses on the center of the theatrical experience: the human being. While always encouraging experimentation and adventure, we stress the development of a solidly rooted technique, asking actors, playwrights and designers to investigate roles, scenes and spaces—and their own creative impulses—with honesty and intelligence. Our goal is a theater that is alive with excitement, clarity and surprise.

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Please note, the GRE is not required for theater arts admission. Students apply for admission to one of the three disciplines and, in addition to the standard application procedures, acting applicants are seen in an audition/interview, design applicants attend an interview with portfolio evaluation and dramatic writing applicants submit one or more original play scripts for evaluation.

Acting and design auditions/evaluations are held at Brandeis and other locations around the country. Information about these auditions/evaluations will be furnished by the program after applications have been received; materials from dramatic writing applicants will be reviewed after applications have been received.

Admission is granted for one academic year at a time.

## Faculty

Adjunct Professor  
**Michael Murray**  
Director of the  
Theater Arts  
Program: Directing.

Professor  
**Martin Halpern:**  
Playwriting and  
dramatic literature.

Adjunct Professor  
**Karl Eigsti:**  
Scenic design.

Adjunct Professor  
**John Bush Jones:**  
Dramatic theory,  
literature and  
criticism.

Adjunct Professor  
**Patricia Zipprodt:**  
Costume design.

Associate Professor  
**Robert O. Moody:**  
Scene painting.

Associate Professor  
**Maureen  
Heneghan Tripp:**  
Costume history  
and decorative arts.

Lecturer  
**Jan Curtis:**  
Singing.

Lecturer  
**Dennis Parichy:**  
Lighting design.

Artist-in-Residence  
**Kaja Alder:**  
Costume.

Artist-in-Residence  
**Erika Batdorf:**  
Movement.

Artist-in-Residence  
**Judy Braha:**  
Acting.

Artist-in-Residence  
**Louise Costigan:**  
Singing Studies.  
Accompanist.

Artist-in-Residence  
**Alexander L. Davis:**  
Speech.

Artist-in-Residence  
**Susan Dibble:**  
Movement for the  
actor.

Artist-in-Residence  
**Daniel Gidron:**  
Acting and  
directing.

Artist-in-Residence  
**Barbara A. Harris:**  
Stage management.

Artist-in-Residence  
**Philip Henden:**  
Technical director  
and production  
manager.

Artist-in-Residence  
**Elena Ivanova:**  
Costume design  
and rendering.

Artist-in-Residence  
**Denise  
Loewenguth:**  
Costumiere.

Artist-in-Residence  
**Mary Lowry:**  
Voice.

Artist-in-Residence  
**Leslie Taylor:**  
Scenic design.

Artist-in-Residence  
**David Wilson:**  
Electrics/Sound.

## Degree Requirements

### Master of Fine Arts

Residence  
Requirements.

Acting: three years. Design and  
design/technical: three years. Dramatic  
writing: two years. Dramatic writing with  
certification: three years.

## Programs of Study

### Acting

The acting faculty provides close supervision of class and performance work for first-year actors; second- and third-year actors are the core of the acting company for mainstage and other production activities.

First-year actors are not cast in major productions until the second term. Second- and third-year actors are required to audition for and play as cast in all major productions, unless excused by the chair after consultation with the director.

Actors are required to serve on a crew for one major production each year (about 60 hours); normally this crew may not be for a play in which the student is also performing. Students are expected to help on crew whenever they have time, regardless of formal credit.

### Design and Design/Technical

All graduate design students will have the opportunity to be involved in production work as design assistants or designers during the course of the three-year program. This program is progressive from year one to year three beginning with basic design and crew work and ending with total production design responsibilities. Production assignments are given each year based on the design students' ability and desire, and consultation with the faculty.

### Dramatic Writing

Dramatic writing students are required to serve on one and a half crews each year (about 90 hours). They are also required to participate in the preparation of any studio, workshop or major production of their plays mounted during the time they are in residence, and this counts as one crew. In rare instances, acting in a major production may count as one crew.

## Courses of Instruction

### Required Courses for First-Year Actors

#### Theater Arts 200d. (Formerly THA 201d.) **Seminar in Dramatic Literature, Theory and Production Methods**

Approaches to the analysis and interpretation of dramatic texts and the translation of texts into theatrical production, including discovery of "the world of the play" through research and other investigation.

Usually offered every year.

Mr. Murray

#### Theater Arts 201d. (Formerly THA 203d.) **Acting I**

Acting exercises and rudimentary scene work are used to awaken the actor's own impulse and eliminate conventional cliché responses. Scene work continues with the addition of circumstances, relationships and the logic and continuity of a play.

Usually offered every year.

Staff

#### Theater Arts 202d. (Formerly THA 203d.) **Acting I Improvisation**

Focuses on uncovering the actor/storyteller's sense of play and a physical expression of inner life. Moving from ensemble and transformational work to psychophysical improvisations, the actor reconnects with a spontaneous flow of impulse and converts first into action, then into event in performance projects using masks, clowning and text as springboards.

Usually offered every year.

Staff

#### Theater Arts 203d. **Acting I Laboratory**

Small group work with instructor.

Usually offered every year.

Staff

#### Theater Arts 205d. (Formerly THA 207d.) **Movement I**

Through physical awareness and alignment work, dance for the actor (including ballroom and folk dance styles), Alexander Technique, stage combat, movement improvisation and creative projects, this course offers the actor a process in which to experience more flexibility and freedom of expression through movement.

Usually offered every year.

Ms. Dibble

#### Theater Arts 207d. **Movement I Tutorial**

Individual and small group work with instructors.

Usually offered every year.

Ms. Dibble

#### Theater Arts 210d. (Formerly THA 209d.) **Voice I**

Concentrates on voice production for performance and includes practical knowledge of how the voice works, identification of individual vocal habits and tensions, understanding dynamic relaxation and alignment. Particular attention is given to breathing, rooting sound, forward focus of tone and development of resonance.

Usually offered every year.

Ms. Lowry

#### Theater Arts 211d. (Formerly THA 209d.) **Voice I Tutorial**

Individual and small group work with instructor.

Usually offered every year.

Ms. Lowry

Theater Arts 212d. (Formerly THA 205d.) <b>Speech I</b>	Consists of defining the speech act, describing the organ of speech and isolating the sounds of speech through the International Phonetic Alphabet in order to reduce problems of articulation and train the ear to hear the subtle variations in sound, rhythm and melody of speech. Frequent readings used as practice.  Usually offered every year.	Theater Arts 252d. (Formerly THA 204d.) <b>Acting II— Shakespeare</b>	Acting in the second year contains significant work on Shakespeare, with emphasis on the physicalization of a role and the search for form.  Usually offered every year.  Mr. Gidron and Staff
Theater Arts 213d. (Formerly THA 205d.) <b>Speech I Tutorial</b>	Individual and small group work with instructor.  Usually offered every year.  Mr. Davis	Theater Arts 255d. (Formerly THA 208d.) <b>Movement II</b>	Includes warm-up with strength, stretch and alignment exercises. Contact improvisation, dance and mask and clown work are explored. Personal creativity and use of advanced skills are stressed in movement projects continued into the second year.  Usually offered every year.  Ms. Dibble
Theater Arts 214d. (Formerly THA 233d.) <b>Singing I</b>	Fundamentals in vocal technique and music theory. A survey of music theater repertoire and some classical repertoire. Small groups and/or tutorials.  Usually offered every year.  Ms. Curtis	Theater Arts 256d. (Formerly THA 208d.) <b>Movement Style II</b>	Period dance and styles are taught focusing on the Middle Ages and Renaissance. Tap, combat, Alexander Technique and free-form jazz dance are included in the second year.  Usually offered every year.  Staff
Theater Arts 215b. (Formerly THA 304d.) <b>Rehearsal and Performance I</b>	First-year actors are not cast in major productions until the second term when they perform in the first-year production. Following that production, they are required to audition for, and play as cast in, all major productions.  Usually offered every year.  Staff	Theater Arts 257d. (Formerly THA 208d.) <b>Movement II Tutorial</b>	Individual and small group work with instructors.  Usually offered every year.  Ms. Dibble
Theater Arts 249d. (Formerly THA 225d.) <b>Production Laboratory I</b>	Specifically designed to provide guided practical experience to the student in a variety of theatrical crafts.  Usually offered every year.  Mr. Hendren and Staff	Theater Arts 260d. (Formerly THA 210d.) <b>Voice II</b>	Continuation and consolidation of vocal skills learned in the first year. Vocal workouts are expanded to increase flexibility, range and power. Special emphasis on releasing heightened emotion, skills for handling artifice in language and the application of acquired knowledge to a variety of performance situations and environments.  Usually offered every year.  Ms. Lowry

## Required Courses for Second-Year Actors

Theater Arts 251d. (Formerly THA 204d.) <b>Acting II</b>	Continuing work in exploration of process that integrates self and text through study of Laban, Chekov and techniques that help actor objectify emotion. Scoring now includes through-line and overall objective. Scenes from all of dramatic literature.  Usually offered every year.  Staff	Theater Arts 261d. (Formerly THA 210d.) <b>Voice II Tutorial</b>	Individual and small group work with instructor.  Usually offered every year.  Ms. Lowry
		Theater Arts 262d. (Formerly THA 206d.) <b>Speech II</b>	A continuation of Speech I, focusing on rhythm and melody, leading into poetry and specifically dealing with Shakespeare. Dialect work also begins during this year.  Usually offered every year.  Mr. Davis

Theater Arts 263d. (Formerly THA 206d.) <b>Speech II Tutorial</b>	Individual and small group work with instructor.  Usually offered every year.  Mr. Davis	Theater Arts 306d. (Formerly THA 302d.) <b>Movement Style III</b>	A continuation of Movement Style II, advanced instruction is offered in specialized movement areas, including tap and stage combat. Actors should be eligible for certification by the Society of American Fight Directors as actor-combatants by their third year.  Usually offered every year.  Staff
Theater Arts 264d. (Formerly THA 234d.) <b>Singing II</b>	Intermediate vocal technique including a deeper focus on legato and leggiero work. Intermediate theory including intervals and ear training. A continuing survey of musical literature.  Usually offered every year.  Ms. Curtis	Theater Arts 307d. (Formerly THA 302d.) <b>Movement III Tutorial</b>	Individual and small group work with instructor.  Usually offered every year.  Ms. Dibble
Theater Arts 265d. (Formerly THA 304d.) <b>Rehearsal and Performance II</b>	Second-year actors are required to audition for, and play as cast in, all graduate productions.  Usually offered every year.  Staff	Theater Arts 310d. (Formerly THA 303d.) <b>Voice III</b>	Structured to complement the styles studied in third-year acting, special emphasis is also placed on individual needs, including exploration of "character" voices. Group vocal improvisations are introduced into class work.  Usually offered every year.  Ms. Lowry
Theater Arts 299d. (Formerly THA 226d.) <b>Production Laboratory II</b>	See THA 249d. for description.  Usually offered every year.  Mr. Hendren	Theater Arts 311d. (Formerly THA 303d.) <b>Voice III Tutorial</b>	Individual and small group work with instructor.  Usually offered every year.  Ms. Lowry

## Required Courses for Third-Year Actors

Theater Arts 301d. <b>Acting III</b>	Third-year acting is comprised of four seven-week intensive training units that concentrate on specific styles and playwrights, taught by members of the acting faculty and guest artists. Offerings in the past have included study of 17th-century language, film and television and Sam Shepard. Offerings are tailored to meet the needs of each third-year class.  Usually offered every year.  Staff	Theater Arts 312d. (Formerly THA 305d.) <b>Speech III</b>	Individual work with instructor, concentrating on dialect acquisition and continued practice in speech and language skills through classical texts.  Usually offered every year.  Mr. Davis
Theater Arts 305d. (Formerly THA 302d.) <b>Movement III</b>	Focuses on the Restoration Period, leading into a final movement theater piece. Continued work in basic alignment and Alexander Technique. Curriculum also corresponds with seminars in Acting III.  Usually offered every year.  Ms. Dibble	Theater Arts 313d. (Formerly THA 305d.) <b>Speech III Tutorial</b>	Individual and small group work with instructor.  Usually offered every year.  Mr. Davis
		Theater Arts 314d. (Formerly THA 334d.) <b>Singing III</b>	Advanced vocal technique is emphasized, with further study of theoretical principles and concentration on sightreading. Survey of repertoire for learning and audition purposes.  Usually offered every year.  Ms. Curtis

**Theater Arts 315d.**  
(Formerly THA  
304d.)  
**Rehearsal and  
Performance III**

Third-year actors are required to audition for, and play as cast in, all graduate productions.

Usually offered every year.

Acting Faculty

**Theater Arts 347a**  
or b.  
(Formerly THA  
315e.)  
**Playwriting  
Workshop III**

Third-year actors are required to participate in one term of the Playwriting Workshop. Each week actors are assigned roles in new plays by Brandeis M.F.A. playwrights. Scripts are read in class and actors participate in the discussions following the reading.

Usually offered every year.

Mr. Halpem

**Theater Arts 225d.**  
(Formerly THA  
211d.)  
**Set Design I**

Students work with problems of scale, model-making and drafting. They explore using these techniques in designing sets. There is extensive supervised work in class on these projects.

Usually offered every year.

Ms. Taylor

**Theater Arts 226d.**  
(Formerly THA  
222d.)  
**Drafting I**

Specifically dedicated to developing drafting as a valid design language and tool for theatrical designers. Emphasis is placed upon development of techniques and skills to provide for clear communication of design ideas in the finished production drawings.

Laboratory fee to be arranged.

Usually offered every year.

Mr. Hendren

## Required Courses for First-Year Designers

**Theater Arts 200d.**  
(Formerly THA  
201d.)  
**Seminar in  
Dramatic Literature,  
Theory and  
Production**

See description under Courses Required for First-Year Actors.

Usually offered every year.

Mr. Murray

**Theater Arts 220d.**  
(Formerly THA  
237d.)  
**Design Practicum I**

Certain first-year students are assigned as assistants to second- and third-year designers in areas of production such as scenic arts, props, hair and make-up, millinery, costume and lighting.

Usually offered every year.

Staff

**Theater Arts 221d.**  
**Designing for  
Theater Seminar**

Provides all design students with a fundamental approach to designing in the theater. Emphasis is placed on developing visual equivalents for plays of all periods as they exist in nonvisual/verbal texts. In addition, the students develop their ability to see theater with a visual eye and transform abstract theatrical ideas into visual realities.

Usually offered every year.

Mr. Eigsti and Ms. Zipprodt

**Theater Arts 222d.**  
**Designing for  
Theater Laboratory**

An ongoing evaluation of portfolio materials created through the Designing for Theater Seminar.

Usually offered every year.

Mr. Eigsti and Ms. Zipprodt

**Theater Arts 230d.**  
(Formerly THA  
217d.)  
**Costume Design I**

Explores various methods of drawing and painting as tools for expressing the costume design. Projects incorporate these design and technique problems. There is extensive supervised work in class on these projects.

Usually offered every year.

Ms. Ivanova/Ms. Zipprodt

**Theater Arts 231d.**  
(Formerly THA  
214d.)  
**Costume Pattern  
Drafting**

Basic pattern drafting of bodices, sleeves, skirts and pants, followed by muslin construction, fitting and adaptation of the basic pattern to various styles of fashion.

Laboratory fee to be arranged.

Usually offered every year.

Ms. Loewenguth

**Theater Arts 232d.**  
(Formerly THA  
230d. and THA  
221d.)  
**Drawing I**

An introductory course in drawing skills, including life drawing and basic and perspective drawing. Life drawing includes figure-drawing instruction and studio practice with a focus on developing observational and drawing skills. Using various exercises involving movement, form and shape, the student will learn the basics of perspective and drawing figures to scale.

Laboratory fee to be arranged.

Usually offered every year.

Mr. Moody

**Theater Arts 235d.**  
(Formerly THA 219d.)  
**Lighting Design I**

The first-year graduate lighting design student studies an approach to developing a light plot with an emphasis on lighting mechanics and drafting conventions. The student also develops visual awareness through the study of artistic composition as well as learns a conceptual approach to lighting design.

Laboratory fee to be arranged.

Usually offered every year.

Mr. Parichy

**Theater Arts 249d.**  
(Formerly THA 225d.)  
**Production Laboratory I**

See description under Courses Required for First-Year Actors.

Usually offered every year.

Mr. Hendren

**Theater Arts 277d.**  
(Formerly THA 224d.)  
**Stage Mechanics**

Explores both the theater structure as a machine to house theatrical production and traditional as well as current techniques for the movement and rigging of scenery within that mechanical environment. Specific projects are assigned to develop scenery shifting strategies that allow for a variety of technological solutions to scenic movement problems.

Laboratory fee to be arranged.

Usually offered every year.

Mr. Hendren

**Theater Arts 278d.**  
(Formerly THA 223d.)  
**Scene Painting**

Scene painting includes instruction in basic scene-painting skills, methods, materials and techniques commonly applied in scenic studios and scenery for theater, film and television.

Usually offered every year.

Mr. Moody

## Courses for Second-Year Designers

In the second year, design students begin to specialize in a specific area of design. Under the advice of the design faculty, their choice of courses must be taken from the following list and program electives. All second-year design students are required to take THA 270d, Design Practicum II and THA 299d, Production Laboratory II.

**Theater Arts 270d.**  
(Formerly THA 238d.)  
**Design Practicum II**

Design students serve as assistants to the designers in the areas of scenery, costumes and lighting. In addition, selected students design in the Laurie Theater. These design projects are supported by the design faculty in each area (scenery, costume, lighting and scene painting).

Usually offered every year.

Staff

**Theater Arts 275d.**  
(Formerly THA 212d.)  
**Set Design II**

Second-year set design students focus on advancing the technical and visual skills begun in the first year. Each student delves further into using the text, music and theatrical space to shape their designs. An emphasis is placed on developing an individual process to the work.

Usually offered every year.

Ms. Taylor

**Theater Arts 280d.**  
(Formerly THA 218d.)  
**Costume Design II**

Second-year costume design students focus on technical and design skills begun in the first year. In-depth investigation of text and music to reveal character occurs. Students develop an individual approach to the work.

Usually offered every year.

Ms. Zipprott

**Theater Arts 281d.**  
(Formerly THA 227d.)  
**Costume Rendering I**

Second-year costume design students continue to develop their drawing and rendering skills, working from life studies and using their first-year projects as vehicles for exploration of techniques.

Usually offered every year.

Ms. Ivanova

**Theater Arts 282d.**  
(Formerly THA 232d.)  
**Costume Construction I**

Conversion of basic pattern to historically accurate period costume with emphasis on construction.

Laboratory fee to be arranged.

Usually offered every year.

Ms. Loewenguth

**Theater Arts 276d.**  
(Formerly THA 227d.)  
**Set Rendering I**

Set rendering includes instruction in various drawing and painting techniques employed in the process of designing. The rendering projects are tailored to the student's theoretical set-design projects.

Usually offered every year.

Mr. Moody

**Theater Arts 283d.**  
(Formerly THA 235d.)  
**Costume History and Decorative Arts**

Studies the changing lifestyles of polite and impolite society, their modes, manners and environments. Focus is on the European world 1500-1900. Seminars and slide lectures lead to each student's own presentation to the class and primary source research notebook. Field research in Boston area and New York.

Usually offered every year.

Ms. Tripp

**Theater Arts 285d.**  
(Formerly THA  
220d.)  
**Lighting Design II**

The second-year lighting design student continues developing a conceptual approach to design and also solves advanced problems in lighting design, i.e., musicals, opera and multi-set productions. Those students with a lighting emphasis design the lighting for a departmental production.

Laboratory fee to be arranged.

Usually offered every year.

Mr. Parichy

**Theater Arts 290d.**  
**Drafting II**

Specifically dedicated to the techniques of developing shop drawings from designer-produced plans and orthographic elevations. Emphasis is placed on detail drawings in larger scales.

Usually offered every year.

Mr. Hendren

**Theater Arts 291d.**  
**Scenic Technology II**

Fully explores scenery construction and assembly procedures based on using wood technology and materials. A study is made of recent wood product innovations in the construction industry as applied to theatrical scenery fabrication.

Usually offered every year.

Mr. Hendren

**Theater Arts 292d.**  
**Production Planning  
and Resource  
Management**

Incorporates the processes involved in developing detailed season and individual production schedules. Comprehensive calendar projects are assigned. Cost estimation, both materials and labor, is explored, as well as production budget preparation. In addition, human relations principles and practices, OSHA regulations and state safety and personnel law are covered.

Usually offered every year.

Mr. Hendren and Ms. Loewenguth

**Theater Arts 293d.**  
**Costume  
Technology I**

Entails a practical study of the building of costumes, exploring the properties and versatility of costume materials and fabrics, as well as the methods and machinery needed to create the costumes.

Usually offered every year.

Ms. Loewenguth

**Theater Arts 294d.**  
**Costume Crafts  
Seminar and  
Workshop I**

A practical study of the theories and methods involved in intricate costume crafts, creating accessories such as jewelry, masks and hats, as well as the dyeing and painting of fabrics. Taught by members of the Costume Staff, occasional guest artists who are experts in their crafts are featured.

Usually offered every year.

Ms. Loewenguth and Staff

**Theater Arts 299d.**  
(Formerly THA  
226d.)  
**Production  
Laboratory II**

See description for THA 249d., Production Laboratory I.

Usually offered every year.

Mr. Hendren

## Courses for Third-Year Designers

As in the second year, third-year design students specialize in a specific area of design. Under advice of the design faculty, their choice of courses must be taken from the following list and department electives. All third-year designers are required to take THA 320d, Design Practicum III and THA 349d, Production Laboratory III.

**Theater Arts 320d.**  
(Formerly THA  
239d.)  
**Design Practicum III**

Design students are assigned shows to design in their specialized field of interest: scenery, costumes and lighting. In addition, assignments in scene painting, mask making, props and specialized costume accessories are also given to design students who have achieved an advanced craft skills level in the course of the three-year program.

Usually offered every year.

Staff

**Theater Arts 325d.**  
(Formerly THA  
242d.)  
**Set Design III**

An advanced design seminar, tutorial in nature, centered on the third-year student's portfolio. Each student works to develop a portfolio of projects and realized productions, which serve as a basic tool in seeking employment in the professional theater after graduate training is completed.

Usually offered every year.

Mr. Eigsti

**Theater Arts 326d.**  
**Set Rendering II**

A continuation of THA 276d, Set Rendering I, this course involves advanced study on an individual basis.

Usually offered every year.

Mr. Moody



**Theater Arts 328d.**  
(Formerly THA  
228d.)  
**Scenic Crafts**

Scenic crafts provides advanced scene painting skills, methods, materials and techniques commonly applied in scenic studios and scenery for theater, film and television.

Laboratory fee to be arranged.

Usually offered every year.

Mr. Moody

**Theater Arts 341d.**  
**Theater**  
**Architecture and**  
**Engineering**

Explores the physical aspects of the theatrical structure, both auditorium and production spaces. Building and fire code considerations, as they affect theatrical architecture, are explored. Guest lecturers and field trips to Boston-area theater spaces are arranged.

Usually offered every year.

Mr. Hendren

**Theater Arts 330d.**  
(Formerly THA  
243d.)  
**Costume Design III**

An advanced design seminar, largely tutorial in nature, centered on the students' portfolios and realized production designs, which serves as the basic tool in seeking employment after graduation.

Usually offered every year.

Ms. Zipprodt

**Theater Arts 342d.**  
**Production**  
**Supervision**  
**Practicum**

Provides, under faculty guidance, student control and supervision (within given areas of expertise) of specific aspects of the actual production process of scheduled program productions as assigned.

Usually offered every year.

Mr. Hendren

**Theater Arts 331d.**  
(Formerly THA  
244d.)  
**Costume**  
**Rendering II**

A continuation of THA 281d., Costume Rendering I, this course involves advanced study on an individual basis.

Usually offered every year.

Ms. Ivanova

**Theater Arts 343d.**  
**Costume**  
**Technology II**

A continuation of THA 293d, Costume Technology I, this course explores in greater depth and with a more thorough application, the skills and knowledge acquired in the previous year's class.

Usually offered every year.

Ms. Loewenguth

**Theater Arts 332d.**  
(Formerly THA  
245d.)  
**Draping and**  
**Costume**  
**Construction II**

Draping of various period costume, advanced study of costume construction.

Laboratory fee to be arranged.

Usually offered every year.

Ms. Loewenguth

**Theater Arts 344d.**  
**Costume Crafts**  
**Seminar and**  
**Workshop II**

A continuation of THA 294d, Costume Crafts Seminar and Workshop I, this course involves more advanced study.

Usually offered every year.

Ms. Loewenguth

**Theater Arts 335d.**  
(Formerly THA  
246d.)  
**Lighting Design III**

The third-year lighting design student will continue in individual and advanced problems as well as design the lighting for a departmental production. The third-year student is also encouraged to seek an internship outside of the department.

Usually offered every year.

Mr. Parichy

**Theater Arts 349d.**  
(Formerly THA  
325d.)  
**Production**  
**Laboratory III**

See description for THA 249d., Production Laboratory I.

Usually offered every year.

Mr. Hendren

**Theater Arts 340d.**  
**Drafting III**

A continuation of THA 290d, Drafting II, in terms of detail-oriented shop drawing techniques and skills, with the emphasis on construction technology and materials applications integrated into the drawing. CAD equipment and techniques are introduced and explored as applicable to theatrical use.

Usually offered every year.

Mr. Hendren

**Theater Arts 200d.**  
(Formerly THA  
201d.)  
**Seminar in**  
**Dramatic Literature,**  
**Theory and**  
**Production Methods**

See description under Required Courses for First-Year Actors.

Usually offered every year.

Messrs. Jones and Murray

## Required Courses for First-Year Playwrights

**Theater Arts 246e.**  
(Formerly THA  
200e.)  
**Seminar in Scene  
Writing and Analysis**

For first-year graduate playwriting students; weekly assigned exercises in scene writing are read and critiqued in class with the aim of sharpening the students' skills in handling character motivation, conflict, progression and scenic structure. Open to second- and third-year students as a noncredit course.

Usually offered every year.

Mr. Halpern

**Theater Arts 247e.**  
(Formerly THA  
215e.)  
**Playwriting  
Workshop I**

The central course in the curriculum for all graduate playwriting students. Prepared reading and detailed critiques of student scripts, at various stages of development, with the aim of shaping complete, producible plays. Individual conferences between the author and the playwriting professor follow each workshop session. Further development of the most viable scripts is provided through staged public readings, studio production and department productions. A double-credit course.

Usually offered every year.

Mr. Halpern

**Theater Arts 249d.**  
(Formerly THA  
225d.)  
**Production  
Laboratory I**

See description under section Required Courses for First-Year Actors.

Usually offered every year.

Mr. Hendren

In addition, one full-year elective course in theater arts or approved courses in other departments.

## Required Courses for Second-Year Playwrights

**Theater Arts 296a.**  
**Seminar in  
Dramatic Theory  
and Criticism**

Surveys theoretical approaches to drama and theater from Aristotle to Grotowski, together with exposure to theater criticism through writing reviews of plays in production in the greater Boston area.

Usually offered every year.

Mr. Jones

**Theater Arts 296b.**  
(Formerly THA  
202d.)  
**Seminar in  
Dramatic Structure**

Development of techniques for discovering and analyzing varying types of dramatic structures in plays from the Greeks to the present and employing structure as a tool to understanding or deriving meaning from theatrical texts.

Usually offered every year.

Mr. Jones

**Theater Arts 297e.**  
(Formerly THA  
216e.)  
**Playwriting  
Workshop II**

See description for THA 247e, Playwriting Workshop I. A double-credit course.

Usually offered every year.

Mr. Halpern

**Theater Arts 299d.**  
(Formerly THA  
226d.)  
**Production  
Laboratory II**

See description for THA 249d, Production Laboratory I.

Usually offered every year.

Mr. Hendren

In addition, one full-year elective course in theater arts or approved courses in other departments.

## Required Courses for Third-Year Playwrights

**Theater Arts 347e.**  
(Formerly THA  
315e.)  
**Playwriting  
Workshop III**

See description for THA 247e, Playwriting Workshop I. A double-credit course.

Usually offered every year.

Mr. Halpern

**Theater Arts 349d.**  
(Formerly THA  
325d.)  
**Production  
Laboratory III**

See description for THA 249d, Production Laboratory I.

Usually offered every year.

Mr. Hendren

In addition, one full-year elective course in theater arts or approved courses in other departments.

Students may take the following theater arts courses as electives as well as approved courses in other departments.

**Theater Arts 350d.**  
(Formerly THA  
213d.)  
**Directing**

Essentially a laboratory course emphasizing the director's responsibility to tell a story in strong theatrical terms. Student directors present scenes each week, which are analyzed and reworked by the class with the goal of developing an imaginative and personal approach to a play. Open to second- and third-year actors, designers and playwrights.

Usually offered every year.

Mr. Murray

**Theater Arts 352d.**  
(Formerly THA  
240d.)  
**Acting for Designers  
and Playwrights**

An acting course for second- and third-year designers and playwrights.

Usually offered in odd years.

Mr. Kazanoff

**Theater Arts 355b.**  
(Formerly THA  
250d.)  
**Career Workshop**

Open only to third-year actors, this course is designed to help them prepare for the business demands of an acting career.

Usually offered every year.

Acting Faculty and Staff

**Theater Arts 360c.**  
(Formerly THA  
101c.)  
**Stage Management**

An introduction to the field, including: general organization and coordination, prerehearsal planning, the rehearsal process, technical considerations, the running of a show and specific problems from differing production types and styles and varying levels of theatrical organization. Students must serve as stage manager or assistant stage manager for one departmental production.

Usually offered in odd years.

Ms. Harris

**Theater Arts 380d.**  
(Formerly THA  
310d.)  
**Thesis  
Projects—Design**

The graduate design thesis is a full-scale project that grows out of the periodic portfolio reviews. It may be either a realized or nonrealized project.

Usually offered every year.

Design Faculty

**Theater 390d.**  
(Formerly THA  
300d.)  
**Independent Study**

Usually offered every year.

Staff

## Women's Studies

### Joint Master's Degree

#### Objectives

The joint master's degree in women's studies and a discipline is designed only for Brandeis graduate students who are enrolled in Ph.D. programs and elect a joint master's degree in women's studies and their program. This degree option replaces a master's degree in the student's program.

Interdisciplinary in design, the program aims to give students a solid grounding in their program while offering them the tools with which to incorporate women's studies into it or to forge new areas of research based on the theory and methods of women's studies. Also, it exposes students to the latest methods, theories and results of research in a variety of fields and offers the possibility of cross-disciplinary dialogue. This program introduces students to the distinctive pedagogy of women's studies and enhances the ability of students to compete effectively for faculty openings in women's studies.

### Admission

The following 9 programs have agreed to participate in the joint master's degree program for the 1992-93 academic year: anthropology, comparative history, English and American literature, history of American civilization, joint program of literary studies, music, Near Eastern and Judaic Studies, psychology and sociology. Students must file an Application for Degree with both the Women's Studies Program and their program.

Faculty

Advisors: Associate Professor <b>Silvia Arrom</b> (Comparative History)	Associate Professor <b>Margot Fassler</b> (Music)	Professor <b>Erica Harth</b> (Romance and Comparative Literature)	Professor <b>Jacqueline Jones</b> (History of American Civilization)	Professor <b>Shulamit Reinharz</b> (Sociology and Director, Women's Studies program)	Professor <b>Susan Staves</b> (English and American Literature)
Associate Professor <b>Marc Brettler</b> (Near Eastern and Judaic Studies)	Assistant Professor <b>Karen Hansen</b> (Sociology)		Associate Professor <b>Richard Parmentier</b> (Anthropology)		Professor <b>Leslie A. Zebrowitz</b> (Psychology)

Program of Study.

The length of time and the number of courses required varies since programs have their own requirements for a master's degree. Each program has a women's studies advisor who works with students to develop their course of study. A system of faculty advisors and the tutorials that are typical of graduate work allows students to work in small groups or on a one-to-one basis with faculty members. Students are thus able to take full advantage of the interdisciplinary nature of women's studies by designing an individualized program that cuts across several fields.

**Foundational Course.** This is an interdisciplinary course offered through the Women's Studies Program. It includes presentation of feminist material in literature, the social sciences and the sciences as well as a discussion of feminist pedagogy.

**Additional Courses.** Two courses cross-listed with women's studies (one inside the student's program and one outside) and two additional courses that can be non-women's studies courses in the student's program.

**Colloquium Series.** Provides an opportunity for students to hear feminist scholars speak about their work in an accessible setting where they can ask questions. Students are encouraged to participate in selecting speakers whom they wish to hear.

**Thesis.** The thesis must have a women's studies focus and be approved by both the student's program and the Women's Studies Graduate Committee.

**Additional Requirements.** Students should consult the women's studies advisor from their program to ensure that all master's degree requirements in their program are satisfied.

# University Organization

## Board of Trustees

Under Massachusetts law, the 50-member Board of Trustees is the governing body of the University. There are also four faculty representatives and three student representatives to the Board who participate in Board meetings and have votes on the several committees. The chair of the Fellows, the president of the National Women's Committee and the president of the Alumni Association serve *ex officio*. Alumni elect annually an alumni term Trustee who serves as full voting trustee for a five-year term.

### The President

The President, the chief executive officer of the University, is appointed by the Board of Trustees and is responsible for all University activities.

### Chancellor Emeritus

Chancellor Emeritus of the University is an honorary title held by Brandeis's Founding President Abram L. Sachar.

### University Fellows

University Fellows comprise about 400 national leaders from a broad base of business, educational and public life who lend counsel, expertise and support to University development and planning programs.

### The President's Council

President's Councilors are leading men and women throughout the country whose skills and experience are placed at the disposal of the Brandeis President in areas of their special competence.

## The Provost and Deans

The provost and senior vice president for academic affairs is the chief academic officer of the University with administrative authority under the President for setting academic policy.

The dean of Arts and Sciences has administrative responsibility for the graduate, undergraduate and research functions of the University. Under the guidance of the provost and senior vice president, the dean is responsible for the undergraduate and graduate curricula, faculty, staffing, oversight of academic departments and other academic matters.

The associate provost has responsibility for certain administrative and academic areas of the University including the National Center for Complex Systems; computing

services; grant, contract and patent administration; the Library; development; and strategic planning.

The dean of the Florence Heller Graduate School for Advanced Studies in Social Welfare oversees the academic activities of the University's first and only professional school and its work in such areas as health, aging, income and employment and minorities.

The dean of admissions is responsible for the development of policies and programs related to the admission of new students and the assignment of financial aid and scholarship funds.

The dean of student affairs is responsible for many areas of student life, including student activities, residence life, career planning and placement, health service and athletics.

## The Faculty Senate

The faculty senate, the elected representative body of the faculty, discusses such issues as academic freedom and responsibility, University policy, appointments, tenure, dismissal and salaries.

## The Vice Presidents

The executive vice president for finance and administration oversees Brandeis's complete financial and administrative support operations. The major responsibilities include budgeting and planning, capital programs, endowment and investment management, administrative data processing, telecommunications, plant operations, employee relations, security and materials management. The executive vice president also serves as principal liaison with the Budget and Finance, Investment, Facilities and Audit Committees of the Board of Trustees.

The senior vice president for development and alumni relations is responsible for directing the institutional relations of the University related to fund-raising and alumni, including the Alumni Association, regional alumni chapters and the Alumni Fund.

The vice president and general counsel is the chief legal advisor to the President, the Board of Trustees and the University's senior management officials and oversees the Office of Government Compliance Regulation.

The vice president for administration is responsible for campus facilities, grounds, community relations and administrative operations.

The vice president for public affairs is responsible for the University's communications, including such publications as the *Brandeis Review* and the *Brandeis Reporter*, and external relations, including media relations. He also serves as the University's principal state and federal relations officer and provides liaison with certain national organizations.

The vice president and University treasurer is responsible for the financial administration and business operations of the University and for endowment management, the controllership function and related financial programs.

## National Women's Committee

The National Women's Committee, "the largest friends of a library association" in the country with approximately 55,000 members, has been a partner with the University since 1948. The executive director and national office personnel are responsible for working with the organization's volunteer leadership to develop projects, implement programs and service more than 110 National Women's Committee chapters throughout the United States. This volunteer organization offers its membership a wide range of educational activities. These include unique study group programs with syllabi provided by Brandeis faculty; "University on Wheels" local adult education seminars; and special lectures by University speakers. Members serve as ambassadors of goodwill for the University in their local communities. The primary mission of the Women's Committee is to support the Brandeis University Libraries. The organization supports all aspects of the Libraries' operation, including the acquisition of books and research journals, restoration and preservation, computerized reference system, Library Work Scholars and rare acquisitions. Since the organization's founding 44 years ago by eight women in Boston, the National Women's Committee has contributed approximately \$43 million in support of the Brandeis Libraries.

## The Graduate Council

The members of the Graduate Council of the Graduate School of Arts and Sciences are appointed annually by the President of the University. Members of the Graduate Council for 1992-93 are:

The President of the University (*ex-officio*)

The Dean of Arts and Sciences (*Council Chair*)

**Stuart H. Altman,**  
Dean,  
Florence Heller  
Graduate School  
for Advanced  
Studies in Social  
Welfare

**Eugene C. Black,**  
Chair,  
Comparative  
History Program

**Seyom Brown,**  
Chair,  
Department of  
Politics

**Jacques Cohen,**  
Chair,  
Department of  
Computer Science

**David I. Eisenbud,**  
Chair,  
Department of  
Mathematics

**David Hackett  
Fischer,**  
Chair,  
History of  
American  
Civilization  
Program

**Robert C. Hunt,**  
Chair,  
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# Index

10	Absence from examinations	78	Jewish communal service
10	Academic regulations	84	Joint Program of Literary Studies (comparative literature, French, German, Russian, Spanish)
17	Academic schools, research centers and institutes	91	Mathematics
17	17 National Center for Complex Systems	95	Music
17	17 Gordon Public Policy Center	101	Near Eastern and Judaic Studies
18	18 Lown School of Near Eastern and Judaic Studies	113	Physics
18	18 Rosenstiel Basic Medical Sciences Research Center	119	Politics
18	18 Tauber Institute for the Study of European Jewry	124	Psychology
		89	Russian
		133	Sociology
		90	Spanish
		142	Theater Arts
		151	Women's studies
7	Acceptance		
4	Accreditation statement	11	Credit for work done elsewhere
6	Admission	56	Cross-registration at other institutions
156	Administrative Offices, Officers and	8	Degree requirements
6, 9, 167	Application	16	Dining facilities and services
15	Assistantships, research and teaching	12	Discipline and Student Judicial System
10	Auditing courses	12	Dismissal
4, 153, 155	Board of Trustees	9	Dissertation and Final Oral Examination
4	Brandeis University	8, 15	Employment, student
2, 3	Calendar, academic	17	English as a Second Language Program
153	Chancellor Emeritus	12	Exclusion
10	Change of program	12	Expulsion
12	Continuation	158	Faculty, arts and sciences
169	Correspondence directory	165	Faculty, emeriti/ae
150	Council, Graduate	164	Faculty, Heller School
10	Course standards, grades and	153	Faculty Senate
19	Courses of instruction	13	Fees and expenses
19	19 Anthropology	15	Fellowships
27	27 Biochemistry	153	Fellows, University
31	31 Biology		
37	37 Bioorganic Chemistry	15	Financial assistance
39	39 Biophysics	15	15 Fellowships
47	47 Chemical physics	15	15 Loans
41	41 Chemistry	15	15 Research assistantships
48	48 Comparative history	15	15 Scholarships
87	87 Comparative literature	15	15 Student employment
53	53 Computer science	15	15 Teaching assistantships
73	73 Economics		
56	56 English and American literature	10	Grades and course standards
88	88 French	154	Graduate Council
66	66 Genetic Counseling		
88	88 German		
48	48 History		
69	69 History of American civilization		
73	73 International economics and finance		
89	89 Italian		

9	Graduate degrees, application for	10	Regulations, academic
5	Graduate School, history and objectives	10	Auditing courses
5	Areas of study	12	Continuation
5	History and organization	10	Course standards
5	Objectives	11	Credit for work done elsewhere
5	Graduate School office	12	Discipline and Student Judicial System
16	Health services	10	Exams, absence from
18, 78	Hornstein Program in Jewish Communal Service	12	Exclusion, dismissal or expulsion
16	Housing	10	Grades
10	Incompletes	10	Incompletes
17	International Programs, office of	12	Leave of absence
8	International students	10	Program, change of
8	Language requirements	10	Program of study
12	Leave of absence	10	Registration
5	Libraries	12	Withdrawal
15	Loans	8	Requirements for the degree
16	Mailman House	8	Master of Arts
153, 157	National Women's Committee	8	Master of Fine Arts
156	Officers and administrative offices	8	Doctor of Philosophy
158	Officers of instruction	15	Research assistantships
156	President, office of	11	Residence requirements
153	President's Council	11	Full-time students
10	Program, change of	11	Part-time students
10	Program of study	11	Post-resident students
153, 156	Provost and deans	18	Rosenstiel Basic Medical Sciences Research Center
16	Psychological Counseling Center	15	Scholarships
5	Rabb Graduate Center	12	Special students
7	Readmission	15	Student Employment, office of
13	Records policy	12	Student Judicial System
14	Refunds	16	Student services
10	Registration	15	Teaching assistantships
10	Registration in terms of time	6	Testing
		4, 153, 155	Trustees, Board of
		13	Tuition
		153	University organization
		12	Withdrawal

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